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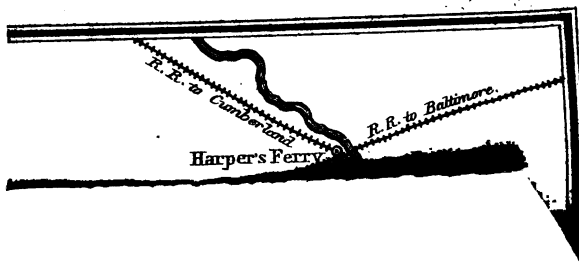
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THE

MINERAL SPRINGS

OF

VIRGINIA:

WITH

REMARKS ON THEIR USE,

THE

DISEASES TO WHICH THEY ARE APPLICABLE,

AND IN

WHICH THEY ARE CONTRA-INDICATED,

ACCOMPANIED BY

A MAP OF ROUTES AND DISTANCES.

A NEW WORK.

BY WILLIAM BURKE, M. D.

Quisquis igitur hæc non cognocet, quomodo, singula se habeant ad hominem comparata, is neque cognoscere quæ ab ipsis fiunt, neque recte uti potest.

[*Hippoc. Lib. De Vit. Med.*

RICHMOND, VA:

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PREFACE.

It will be recollected by some of my readers, that several years ago (1842) a little work written by me, on "*The Mineral Springs of Western Virginia,*" issued from the press of Wiley and Putnam, New York. A second edition appeared in 1846. This having become exhausted, I determined to re-write it and bring it out as a new work. In course of the former publications, I became involved in controversies and personalities, as foreign from my taste and disposition as they were uninteresting to the public. These and other irrelevant matters I have discarded from the present work; and although I have, perhaps, in the latter, indulged more in fanciful description, I trust the professional portion of the work has not been sacrificed.

A strictly professional work on such a subject as *Mineral Waters* would find few readers. I regret it has been out of my power to visit the Eastern group of Springs, as I intended when I commenced this work; but I shall do so in the course of the present year, and shall, in a future edition, embody the results of my observations. The *analyses* are generally more meagre than I would wish, but this portion of the work will also, I trust, be greatly extended, when I again appear before the public. I am conscious that the little volume now presented is very imperfect, but still hope it may not be found altogether unprofitable to the reader, whatever may be the estimate placed upon its author.

WM. BURKE.

Richmond, Va., April 14th, 1851.

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CHAPTER I.

INTRODUCTORY REMARKS.

Man, made in the image and after the likeness of God, is nevertheless subject to more ailments, liable to more dangers and obnoxious to more enmities than all the inferior animals. But of all his enemies, he himself is the greatest and most formidable. He, to whom is given "dominion over the fish of the sea, and over the fowls of the air, and over the cattle, and over all the earth," is the veriest slave to the grossest vices, the most perverse passions, and the most debasing appetites. As these are almost infinite, so also the diseases consequent on them are multitudinous, complicated, and difficult to be understood. Did the consequences, in every instance, fall upon the culprit himself, sympathy were less merited; but, alas! he frequently imposes on his unhappy descendant—but too often his only inheritance—the heavy burden of his follies and his crimes, and thus, indeed, are the sins of the father visited upon the children to the third and fourth generation.

It is, however, no part of my duty, at present, to moralize on the vices or virtues of mankind. I take

them up as afflicted with numerous *chronic* diseases, and to the treatment of these, by the agency of MINERAL WATERS, I mean, in the following pages, to confine my attention.

The treatment of ACUTE diseases is the exclusive province of the physician. To his hands alone, where it is practicable, should be committed the important office, in the discharge of which the life of a human being is involved. The science of medicine has, fortunately, made such strides in improvement within the present century, that the physician has now under perfect control diseases, which, in former times, were always formidable, and generally fatal. Yet, perhaps, the average of human life is not increased, since the advancement of civilization and refinement seems to have introduced a large class of diseases unknown to our forefathers. It is when disease degenerates into a chronic form, that the skill of the physician is at fault and frequently powerless, and it is just here that nature, the most beneficent physician, presents from her generous bosom those pure streamlets that restore health and vigor, and elasticity to the afflicted invalid. It is in this condition that Mineral Springs are sought after, and in which it becomes desirable to the invalid to know whither he must direct his course to effect the object he has in view.

The Springs of Western Virginia form a group unrivalled in this, and perhaps in any other country,

as I think will be seen on perusal of the following chapters. Great and acknowledged, however, as is their power over disease, they would be shorn of much of their virtue, had nature placed them in less favorable situations. Had they all been congregated in a large city, it is doubtful whether they would maintain their present reputation. There is much truth in the following remarks of Sir Walter Scott:—"The invalid often finds relief from his complaints, less from the healing virtues of the Spa itself, than because his system of ordinary life undergoes an entire change; in his being removed from his leger and account books—from his legal folios and progresses of title deeds—from his counters and shelves—from whatever else forms the main course of his constant anxiety at home, destroys his appetite, mars the custom of his exercise, deranges the digestive powers and clogs the springs of life." Who would look for a riddance from his ailments in the murky atmosphere and crowded streets of a city? It is the sweet country alone that can invigorate the enervated constitution, raise the drooping spirits, calm the agitated mind, inspire the finer emotions of the heart, and impart elasticity and strength to the moral and physical powers. The citizen, like a boy let loose from school, rambles over the fields, ascends the hills, culls wild flowers, and is filled with admiration, pleasure and cheerfulness.

The manner of travelling, too, has much to do

with the success of his efforts to recover health. Steamboats and railroads have, indeed, greatly expedited locomotion, but they are of little value to the invalid, except as means of rapid conveyance to a more salubrious climate. Suppose a dyspeptic to start from Boston for Winchester in Virginia, what possible advantage can he derive from those several hundred miles of travel? He gains nothing from change of air, for he is all the time inhaling the unwholesome atmosphere of a crowded vehicle. The velocity of motion precludes his enjoying the successions of scenery, and he reaches the end of his journey, moody and discontented. But now, arrived in the garden spot of Virginia, and desirous to extend his journey to the Springs, let us transfer him, with five other congenial spirits, into an extra stage-coach. He rolls along the beautiful valley of the Shenandoah, on a fine macadamized road; the pure air of early morning sharpens his appetite, and the novelty of the scenery, the raillery, fun and anecdote of the passengers, the landing at the tavern, the abusing of coffee and biscuits and long-legged chickens—these, and a thousand other charms of a stage-coach, make him forget his acid stomach, and are worth all the pills of the apothecary and the nostrums of empiricism. Now he winds up the ascent of the Warm Spring Mountain, amidst thousands of clusters of the splendid rhododendron, the gay blossoms of the laurestinus and

ever-varying azalia; now he reaches the summit and sees the world beneath him—mountains and valleys and pastures, houses and men and cattle—all in miniature; he is delighted and wrapt in meditation, and he inwardly adores the majesty of that Being who is enthroned in the heavens, and who *looketh down* on the high places of the earth. The inward man is now changed; the feverish melancholy invalid, weaned from his own gloomy reflections and anticipations of evil, is once more converted into a social being, sympathizing in the feelings and pleasures of others and charmed out of fancied or real sufferings.

If there is a scene on this earth calculated to strike the mind with reverential awe, and to raise the soul from grovelling thoughts of self to the contemplation of the God of Nature, it is to stand on the *highest top* of the *highest mountain*, and to look down on pigmy man and his ant-hill habitations, and then to reflect on his vanities and his follies, and the end of all—*his little resting-place.* Never shall I forget the emotions produced by a visit to the summit of the *Salt Pond* mountain, in Giles county, some years ago, with a few friends. Our horizon was extended to upwards of a hundred miles in diameter, limited only by the azure arch of heaven, and presenting to the eye the most sublime spectacle which the human mind can conceive.

—— "It was a hill
Of Paradise the highest, from whose top
The hemisphere of earth, in clearest view,
Stretched out to the amplest reach of prospect, lay.
Not higher that hill, nor wider looking round,
Whereon, for different cause, the tempter set
Our second Adam, in the wilderness,
To shew him all earth's kingdoms and their glory."

Similar is the view from the Blue Ridge at Rockfish Gap, with the additional advantage of overlooking a more cultivated and diversified country. In the morning (as from the celebrated Rock on the Warm Spring Mountain) you may see the glorious god of day emerging from his curtains of purple and gold, and shaking from his locks the dewy drops of ocean, and with a benign radiance illuming the welcoming features of his fruitful sister. Here, again, at mellow evening, you may see him descending in majestic dignity beneath the great Appalachian mountains, gilding in his descent the green forest and fleecy clouds, creating a thousand fanciful resemblances. But the view from the point designated is limited in comparison with those that may be obtained by ascending the conical peaks rising several hundred feet higher. That on the southwest was the one I ascended. At the highest *cleared* point was a cluster of disjointed sand-rocks, in the centre of which rose a sturdy oak, which seemed to bid defiance to the tempests; yet the

tempests came and shattered one of its arms, while the humble and shrinking shrubbery around it remained undamaged. So it is in human life; those who expose themselves to its tempestuous hurricanes, must indeed be clad in panoply, if they escape unscathed; while the gentle and retiring are sheltered from its frowns and its malice. The former may be greater benefactors of society, the latter are more happy within themselves.

Carefully observing there was no rattlesnake in juxtaposition, I seated myself upon the highest crag, and then viewed two-thirds of the horizon. Suffice it, now, to say, that if any one shall think proper to follow in my footsteps, he will be amply repaid by the scene I witnessed. But let him go *alone*, and in the solitude of nature, after having surveyed all the magnificence of earth beneath his feet, let him direct his vision to the pure canopy of heaven and feel that no eye can look down upon him but that of his God.

Most men admire the setting sun,
I like him when his course is run.
From the god's parting orbit fly,
Those rays that tinge the western sky,
And sailing clouds in ether mould,
To forms oft varied, grand and bold.
Behold that frowning, threat'ning height,
Crowned with soft hues of purple light,
And see, beneath, the dread Bastile,
Or Inquisition of Castile,
With massive walls, and ponderous gates,
And windows fenced with iron grates,

And ramparts guarded by a moat,
As at Ullöa or Perote.
See! mountains over mountains rise,
And pierce, in various hues, the skies.
The giants thus, as fables told,
With guilty pride, and daring bold,
By piling mountains, vainly strove
To drive from heaven the mighty Jove.
Lo! next a river gently glides,
And flows in blue and peaceful tides,
Then through great rapids foams its way,
And seems to fill the sky with spray.
There, Alpine hills with snow-drifts cold,
And on them lakes of molten gold.
Here some vast pile or ruined tower,
Such as display'd Baronial power
In feudal days; whose now decay
Marks time's destructive, envious sway.
A thousand gorgeous clouds arise,
And clothe in varied robes the skies,
'Till eve advancing seeks to shroud
Her beauty in a fleecy cloud.
That should not, yet, her charms conceal,
But shew them tempered thro' a veil.
Just then in all her glory shone,
The queen of heaven—the full-orbed moon.
Her beams descend in silvery light,
Upon the forests still and bright,
Smooth as a blooming maiden's face,
On which no eye can wrinkle trace,
And like a good man's conscience clear,
That does not flood or tempest fear.
A cone, of purest, virgin white,
Reaching the zenith in its height,
About midway, an opening gave,
Like the vast entrance of a cave.
Adorned as for occasion great,
Was placed within a bed of state,

The curtains drawn the form displayed
Of a sweet blooming, blushing maid.
There, as she lay upon the bed,
Her arms thrown o'er her beauteous head;
Ariadne's form it seemed to be,
Or Venus rising from the sea.
I gazed, till dazzled at the sight;
The vision faded into night!

Within the range of the Virginia Springs, the climate is much more uniform than that of the Atlantic region, in the same latitudes. The severe north-easterly winds, which extend over the tide-water districts, are arrested in their westward career by the Blue Ridge mountains; or, if they partially affect the Valley of Virginia, the Alleghanies oppose an insuperable barrier. The air, though keen, is always pure, bracing and exhilarating; nor is there ever that alternation of a close, suffocating atmosphere, with intense cold, which is so well known on the Atlantic borders. Extremes of cold or heat are seldom felt, and may be considered exceptions to the general character of the climate.

During a residence of eight years west of the Alleghanies, I never saw the thermometer lower than 6° below zero, and used to consider 6° above as very cold weather. The greatest degree of heat I observed was 97°, but it seldom exceeded 86°, and but for a few hours about mid-day. The usual summer temperature is from 57 to 78°. The nights and

mornings are almost always agreeably cool. It will be readily seen, that where there is often a difference of 20 to 30° in temperature of the morning and afternoon, it becomes necessary to adapt the clothing to the different conditions of the atmosphere; it would therefore be imprudent to go abroad in the early morning thinly clothed. The fogs, always *indices* of fair weather, though perfectly free from miasma, are nevertheless humid, and render woollen clothing comfortable. With this precaution, there is nothing to prevent early rising and exercise.

The rainy season in the Virginia mountains sets in about the 15th of March, and sometimes extends into the month of June. The season for using the waters may be said to commence on the 1st of June, and terminate on the 1st of October. As all through the United States, the difference between the summers, both as regards moisture and temperature, is sometimes very marked, but in a series of years, the average climate is most agreeable, and the air buoyant and invigorating.

Between the 20th and 27th of August, it almost invariably happens that there are two or three days of rainy, blustering, cool weather, after which it clears away and becomes exceedingly pleasant, until the 10th to the 15th of September, when it is not uncommon to see a heavy rain succeeded by two or three cold nights and white frosts. The visitors, alarmed by this little equinoctial demon-

stration, disperse like migrating birds, and leave those beautiful valleys, lately the abodes of gaiety, solitary and silent as a deserted village. They have scarcely crossed the Blue Ridge, however, ere they find their apprehensions of a permanent change in the weather were premature, and now earnestly wish themselves back again among the friends from whom they separated, and the scenes from which they had just departed.

In truth, the most delightful period in the mountains, is that between the 20th of September and the 1st of November. It is the sweet season of Indian Summer, when the woods are clothed in their most gorgeous livery—when Nature seems to enjoy a calm repose, as if to prepare herself for the buffeting storms of approaching winter.

"Attempered suns arise
Sweet beam'd, and shedding oft through lucid clouds
A pleasing calm; while broad, and brown below,
Extensive harvests hang the heavy head.
Rich, silent, deep, they stand; for not a gale
Rolls its light billows o'er the bending plain;
A calm of plenty!"

CHAPTER II.

NATURAL CURIOSITIES.

As I have been mentioning some of the advantages and inducements presented by Virginia, to invalids and others in pursuit of health or pleasure, it may not be amiss to glance at some of the natural curiosities to be met with in its mountain region.

Among the foremost of these is the passage of James river through the Blue Ridge mountain. I can fancy what Harper's Ferry was in the days of Jefferson; but it is now most sadly marred by the bridges thrown across both rivers, the smoky furnaces, and the *improvements* of civilization. Wildness, height, evidence of a great convulsion of nature at some distant period, are also characteristics of the scene at James river. Magnificent as the Eastern mountain appears from the road opposite, it must be inconceivably more so from the bed of the river. It is through this gorge that the James river canal is to pass, and no doubt many will be attracted to it by this scene alone. A few miles west is the Natural Bridge. "This bridge is in the county of Rockbridge, to which it

has given name, and affords a public and commodious passage over a valley, which cannot be crossed elsewhere, for a considerable distance. The stream passing under it is called Cedar creek. It is a water of James river, and sufficient in the dryest season to turn a grist-mill, though its fountain is not more than two miles above."*

The author visited this celebrated spot 27 years ago. At that time it was pretty much in the state described by Mr. Jefferson, the scene itself being rendered more enchanting by the stillness and wildness of surrounding Nature; but the approach of cultivation and the squatting down of a tavern at one end, have divested it in my view, of some portion of its former interest. Loneliness is an important element in my estimate of the sublime, and I must confess, that the usual supply of white-haired little urchins, and woolly-headed darkies, the squealing of pigs, the shrieking of guinea-hens, and even the odor of frying bacon and eggs, (the latter pleasant enough in its place,) destroyed much of my pleasure on a more recent occasion.

The recollections of my first visit have suggested the following lines, in which I have endeavored to express the only opinion I have ever entertained of the manner of its formation.

* Jefferson's Notes on Virginia.

THE NATURAL BRIDGE, VA.*

God said: "Within these hills let there be light!"
The heavens descend in floods, and shew his might.
The rushing waters pierced the fissured rock;
It trembled, cracked and yielded to the shock.
In masses huge it plunged into the wave,
And in the billows found a boisterous grave.
Successive surges lash the rigid sides,
They fall and sink, beneath the roaring tides.
Crash follows crash; the cavern fills below,
The raging torrents swell and backwards flow,
Until, at length, their pressing power and weight
The mighty barrier bring to instant fate.
One gurgling groan—the wildest and the last—
The liquid mountain bears it far and fast.
The graceful arch, on its colossal piers,
Thus stands unscathed by the lapse of years.
All future ages on its dome will gaze,
Race after race its grandeur will amaze.
Here Indian monarchs roamed in olden time,
Viewed the vast span, and felt the true sublime.
Mayhap, too, here his altar one had made,
And in sad accents the GREAT SPIRIT prayed,
To keep the Saxons from his father's grave,
And from their deadly grasp his people save.
'Twas scenes like this that Jefferson had fired,
And his great soul with liberty inspired.
Methinks I see him on its convex stand,
The chart of freedom waving in his hand,
While o'er his head his country's eagle soars,
And underneath the foaming torrent roars.
Fit were the place to think of mighty deeds,
Fruitful the soil to animate those seeds
That genius planted in the patriot's mind,
To grace the earth and elevate mankind.

* These lines were originally inscribed to my greatly esteemed young friend Miss L. H. Bachman, of Charleston, South Carolina. W. B.

Mark well that spot,* where o'er the beetling steep,
The statesman lay and looked into its deep—
Until his temples throbbed with aching pain,
And he was backwards forced to creep again.
Thought he not, then, of that fierce flood of strife,
On which he launched his fortune, honor, life?
O'er its rough brow the *Arbor Vitæ* hung,
And to its shelving sides the cedars clung.
Upon its summit rose majestic pines,
And from its fissures sprung ambitious vines.
No voice he heard except the panther's howl,
Or perched upon some bough, the lonely owl.
Wild, as when first amid convulsive throes,
From earth's deep womb the heaving mountains rose.
Here gentle muse! thy sweetest gift bestow,
That I in words may paint the scene below.
Above, if terror struck the mind with awe,
With pleasure, transport all the eye now saw.
Look to the East you see the *mountains blue*,
Turn to the West the *Endless*† meet your view.
Here, on your left, you see the pine-crowned height,
But, on the right, the brow evades your sight.
Thus, at Aurora's birth, each morning flies
The lark, to meet his goddess in the skies;
In warbling notes to cheer her with his song,
Unseen on earth and by the vulgar throng.
But now, dear Helen, with admiring eye,
Behold that half-ellipse, so light, so high,
Like the clear arch, of pure ethereal span,
That as His cov'nant God vouchsafed to man.
Here let our thoughts to heavenly regions soar,
And the great Maker in His works adore.
See at your feet in peaceful streamlets flow,
The limpid rills, while o'er them fire-flies glow,

* You involuntarily fall upon your hands and feet, creep to the parapet and peep over it. Looking down from this height about a minute, gave me a violent headach.—*Jefferson's Notes on Virginia.*

† The ridge of mountains next beyond the Blue Ridge, called by us the North mountain, is of the greatest extent; for which reason they were named by the Indians the Endless mountains.—*Ibid.*

At summer's eve, and liquid crystals light,
Soft as the dew, and as the diamond bright.
Look where the Hero* of illustrious fame,
High on that pier inscribed his glorious name;
Where mortal man will never write again,
And those who strive, will always strive in vain.
Thou too, my muse, must be prepared to share
The fate of all, beyond their powers who dare.

The Organ Cave, on, or rather under, the road from the White to the Salt Sulphur, is vastly imposing at its entrance, and is said to contain some admirable specimens of stalactitic formations. But the most wonderful of all curiosities of this class is *Weyer's Cave.*

"Weyer's Cave† is the most remarkable cavern at present known. It is situated near the north-eastern extremity of Augusta county, Virginia, seventeen miles from Staunton, sixteen miles from Waynesborough, eight from Mount Sidney, fourteen from Harrisonburg, and thirty-two from the University of Virginia.

Its entrance is in the eastern side of a ridge running parallel with the Blue Ridge, and four miles distant from it. The western declivity of the ridge is very gradual, and the visiter as he approaches from that direction, little imagines, from its appearance, that it embowels one of Nature's masterpieces. The eastern declivity is, however, quite

* In 1823, when the author first visited the Natural Bridge, there was shewn to him a point, quite high, on the right side where Washington was said to have inscribed his name. The thing itself seemed impossible.
† Extract from a pamphlet to be found at the Cave.

precipitous. The guide's house is situated at the northern extremity of this ridge, and is distant eight hundred yards from the entrance of the cave.

In going from the house to the cave, you pass near Madison's Cave, which is in the same ridge, and only three hundred yards from it. Madison's Cave was known and visited as a curiosity long before the discovery of Weyer's, but is now passed by and neglected, as being unworthy of notice, compared with its more imposing rival, although it has had the pen of a Jefferson to describe its beauties.

The ascent from the base of the hill to the mouth of the cave is steep, but is rendered less fatiguing by the zigzag course of the path, which is one hundred and twenty yards in length.

In the year 1804, one Bernard Weyer ranged these hills as a hunter. While pursuing his daily vocation, he found his match in a lawless ground-hog, which not only eluded his efforts, but eventually succeeded in carrying off a trap which had been set for his capture. Prompted by the loss of his trap, Weyer made an assault upon the domicil of the depredator with spade and mattock. A few moments labor brought him to the ante-chamber of this stupendous cavern, where he found his trap deposited.

The entrance was originally small and difficult of access, but the enterprise of the proprietor has ob-

viated these inconveniences. It is now enclosed by a wooden wall, having a door in its centre which admits you into the ante-chamber."

The following lines suggested by a visit to Weyer's Cave, on the 17th of September 1850, and presented to his estimable friend Mrs. E. Bartlett of Richmond, by W. B., are now, with some alterations and additions, respectfully submitted to the reader.

Beauteous art thou, O earth! thy bosom fair.
Green are thy valleys, pure thy mountain air.
Bright are thy dews, the gems of early morn.
Rich are thy fields, in crops of waving corn.
Clear are thy rivers, tranquilly that glide,
To bless the swains, and woo the ocean tide.
Silent thy woods, and grand that Alpine height.
Fearful those clefts, where reigns eternal night.
Sublime that *Bridge*, which with colossal span,
O'er a deep gulf conducts poor sinful man.
Beneath whose arch he may behold a rock,
Unscathed by ages and the lightning's shock.
Emblem of that on which his Saviour stood,
Planted his Church, and nourished with his blood.
But most sublime is vast *Niagara's* roar,
As rushing, bounding, madd'ning, tumbling o'er,
The mighty cataract descends in foam,
Then mounts to heaven, and gems its concave dome.
Now leave, my friend, the balmy, buoyant air,
That God has spread around this earthly sphere.
Confiding, come, forsake ethereal light,
And plunge with me, to depths of darkest night.
Seek *Terra's* womb, in *Weyer's* gorgeous *Cave*,
And stand undaunted, in great Nature's grave.
Though dank the air, within this vast profound,
Though darkness drear invest us all around;

Yet *God* is here; He watches by our side,
His arm protects, His light will be our guide.
Each room to tell, each object to define,
Would task the talents of the tuneful Nine,
How then may I, in pleasing verse array
Those roofs that sparkle like the milky way?
O! how express my wonder and delight,
The shell-room when I saw in blaze of light?
'Twas heaven supported by columnar spars,
Its arch bespangled with coruscant stars!
Now look, Eliza! mark bright *Eden's* bower,
Where Nature stands revealed in magic power.
Behind those curtains lies the crystal bed,
To which fair *Eve* our primal father led.
But 'twere pollution by a taper's light,
This *Holy* to expose to mortal sight.
The *Senate Chamber* next attracts the eye,
And Conscript Fathers met in conclave high.
Then pause awhile, and let us here survey
These scenes impervious to the god of day.
Behold that crystal, horizontal plain,
Stretched out immense, yet which no props sustain.
To say how formed conjecture does not dare,
Or how it hangs suspended in mid air.
So steady, unsustained, stands over head,
Mahomet's coffin and its mighty dead.
From its cold bed festooning curtains rise,
As sailing clouds invest the starry skies.
But turn to objects of another kind,
And view the emblems of immortal mind.
Who sits majestic in that curule chair,
In patriot pride, but with a brow of care?
Methinks 'tis *Tully*, from his lips divine,
That lightning poured on wicked *Catiline*.
Ambitious *Julius* there dissembling stands,
And sues for mercy for the robber bands;
While virtuous *Cato*, in his country's cause,
Sustains the consul and supports the laws.

Perhaps, proud *Albion!* you the council claim,
Memento of your glory and your shame!
What culprit stands indicted at thy bar,
Polluted, stained by plunder spoils and war?
'Tis *Hastings* vile, who played with kings as toys,
And wealth amassed by crushing human joys.
Indignant *Fox*—who never winked at wrong,
But for the right took part against the strong;
From his deep mind enriched with varied stores,
Upon the wretch his thundering volleys pours.
Sheridan—wonder of that glorious age—
The poet, wit, the orator and sage!
See how the victim writhes beneath his lash,
Behold those eyes with wrath and frenzy flash.
Beneath their glance see crouching *Hastings* quail—
His weight to bear his tottering members fail.
He sinks affrighted at his monstrous guilt,
And feels the dagger pierce him to the hilt.
Majestic *Burke!* thou greatest of the great,
In arts and science, and affairs of state;
The friend of man, in every land and clime,
Of morals pure, in eloquence sublime!
Beneath fancy's eye, I see your bosom swell,
Unscathed by pless *Nabob's* wrongs you dwell.
Emblem of the heavenwards in the gorgeous clouds,
Planted hi ing monarchs in their bloody shrouds.
But m na's sides, so are all climates seen,
ear streams, fierce torrents, snows, and pastures green.
Calm stands the mountain on its mighty base,
While lava pours in torrents from its vase.
Thus varied learning, wisdom, words of fire,
Flow from those lips that genius doth inspire.
Thus *Edmund*, thou didst scathe a wicked age,
And war on rapine, lust and murder wage!
But now my fancy brings me nearer home,
Than guilty England, or aspiring Rome.
And if awhile it wandered o'er the main,
'Twas only to return with pride again.

Within the bowels of their native land,
Columbia's statesmen in this chamber stand.
To whose great fame I would just homage pay,
And in Elysian light their pow'rs survey.
Firm as the granite of his native state,
There *Webster*, dignified and thoughtful sate.
Behold him calmly, slowly, rising now,
Peace in his eye, and genius on his brow.
He waves his hand, the hall as death is still;
He speaks, his words through ev'ry bosom thrill.
His patriot thoughts in graceful periods flow,
Upon his lips the flames of fancy glow.
A great Ionic pillar there he stands,
A model to all time, and to all lands.
Now see all eyes are turning to the right,
Where stands old NESTOR girded for the fight.
The aged chieftain casts his glance around,
The gazing crowd are filled with awe profound.
He smiles; the action, like some magic [illegible],
Dispels all fear, and dissipates alarm.
They see great *Harry* on that glorious field,
Where oft he cast his spear and raised his shield.
They see him now, as in his fervid youth,
Uphold his country with consistent truth.
Undaunted, though with odds he has to cope,
Be leads the last, forlorn, but gallant hope.
He mounts the breach, with *Webster* on his right,
And *Cass* upon his left, a valiant knight.
While dauntless, firm, and with his well-poised spear,
Like brave *Ulysses*, *Foote* brings up the rear.
List to those tones as clear as silver bells,
Hear how that voice in strength and compass swells.
Behold that gesture full of native grace—
See wit and fancy beaming in his face.
His patriot lips pour forth the flowing tide,
He loves his country with a patriot's pride;
Not this, nor that, but every brilliant STAR
That lights its banner, both in peace and war.

His periods swell like billows, more, and more,
Now foam like breakers bursting on the shore.
Reason and logic, now, and force prevail,
Sarcastic humor, now, descends like patt'ring hail.
O *Clay!* when death shall consecrate thy name,
How bright the halo that will light thy fame.
Envy will then to darksome caverns creep,
And o'er her patriot son a nation weep!
Others there are to whom I fain would raise,
In grateful verse, the voice of well-bought praise;
But, in his course the sun I cannot stay,
And to his cheering beams I haste away.

The lights grow dim, and sable curtains shroud
The gloomy chamber, and the solemn crowd.
Ah! what is this has changed the scene so soon?
There lies, in death, the virtuous, great *Calhoun!*
His country's Eagle drooped his wings, methought,
And in his beak a sprig of Cypress brought.
Approach, sad bird, and lay it on his bier,
And let the muse bedew it with a tear.
The Southern *Grattan* sleeps an endless sleep;
In morn[illegible]y'st thou mourn, and well his country weep.
But [illegible]*ina!* come, and most of all,
Hold o'er thy son the solemn funeral pall.
Thou wert the idol of his earthly hope;
Thou wert his *Sun*, and he thy *Heliotrope.*
Bear him, ye mourners, to that sunny home,
Beneath those skies where he so loved to roam.
Above his head, and o'er his honored grave,
Let the Palmetto and Magnolia wave.
There zealous pilgrims, at a future day,
Beneath those sacred trees shall homage pay;
Until their bosoms lofty thoughts inspire,
And in their soul they feel the patriot's fire.

To *Congress Hall* the guide next leads the way;
It "stands adjourned," so here we need not stay.
The Tower of Babel meets our wondering eyes,
As, in its pride, it pierced those nether skies.

Imagination, here, all forms may paint,
The church and steeple, bishop, sinner, saint;
Organ and drum, with deep and booming sound,
Sent back by echo, through the hollow ground;
That throne on which the *Wise* of Kings appears,
And knows the mother by a mother's tears;
Damocles' sword, and great Achilles' shield,
And one which mighty Ajax could not wield;
The blood-stained Indian, decked in human scalps,
And great *Napoleon* crossing o'er the Alps;
High mountains, valleys, gorges, glens, and glades,
Snow-hills, and coral banks, and white cascades;
Temples and pyramids, and leaning towers,
The vast Pantheon, and its Pagan powers;
Amid these Gods, a modest Virgin smiled,
The sweet *Madonna* with her SAVIOUR child.
Majestic, grand, sublime, beyond them all,
Is that vast avenue, or wondrous HALL,
To which the father of his country's name,
Just honor gives, and well-deserved fame.
For untold ages, here no footsteps trod,
Full in the centre, all alone with GOD,
A grand stalagmite, of gigantic height,
Meets the enchanted gazer's wildered sight;
In fine proportions, like that patriot sage,
The great APOLLO of a recent age.
But cease my muse, no human pen can trace,
The varied wonders of this awful place.
Yet see, Eliza! mark that point of blue,
In heaven's horizon that now meets our view:
That single gleam of sky, pure, clear, and bright,
Is worth all treasures of perennial night.

CHAPTER III.

SOCIETY.

England has her Bath, and New York her Saratoga—places of fashionable resort that present various attractions to those who live for admiration and the excitement attendant on dissipation; but they want that calm repose, that freedom from restraint, that omission of conventional usages, which render the society of our Virginia Springs so delightful.

Who would not rather luxuriate in imagination with the inimitable Scott, round the copse-grown precincts of St. Ronan's Well, and contemplate at leisure the various phases and eccentricities of human character, portrayed in this, amongst the most graphic of his creations; or even repose with Frank Tyrrel, for a season, at the solitary manse of the Cleikum, enjoying the comfortable housewifery of the notable Mrs. Dods, than engage in the routine of follies and absurd ceremonies which constitute the pleasures of a fashionable watering-place.

Saratoga and other Northern watering-places, being brought by railroads into contiguity with large and populous cities and towns, and accessible to persons in every condition of life at a trifling ex-

pense, the mass of visiters is of course composed of all sorts of people. The knowledge of this fact makes men distrustful of each other's standing, and shy and reserved. Such a *matériel* wants, and ever will want, the enchanting ease of manner, dignity of deportment, and air of true gentility, founded on benevolence and forgetfulness of self, which distinguishes Nature's gentleman from the mere cockney and pretender.

At the Virginia Springs, on the contrary, there is a feeling of equality, a relinquishment of formality, a republican simplicity of manners, a reciprocity of kind, courteous, but unpretending civility that renders those places peculiarly agreeable. No one can have failed to observe the difference between large and small communities, as regards sociability; the latter being in some degree individually dependent on each other, cultivate kindly feelings, and form strong attachments, whilst it is not uncommon for the resident of a city to be ignorant of the name of his next-door neighbor. So it is at Mineral Springs; the more populous they are, the less sociable.

The great novelist from whom I have already quoted, makes indeed the following correct observations on the subject: "The society at such places is regulated by their very nature, upon a scheme much more indulgent than that which rules the world of fashion, and the narrow circles of rank in

the metropolis. The titles of rank, birth and fortune are received at the watering-place without any very strict investigation, as adequate to the purpose for which they are preferred; and as the situation infers a certain degree of intimacy and sociability for the time, so, to whatever height it may have been carried, it is not understood to imply any duration beyond the length of the season. No intimacy can be supposed more close for the time, and more transitory in its endurance, than that which is attached to a watering-place acquaintance." Yet there are numerous instances of permanent and ardent friendship among those rural retreats, and even the wily Cupid not unfrequently speeds his arrows from the shade of some majestic oak.

"Hither come also," says the same author, "the unprincipled gamester, the impostor, the heartless fortune-hunter. But, besides these characters, who are actually dangerous to society, a well-frequented watering-place generally exhibits, for the amusement of the company, and the perplexity and amusement of the inexperienced, a sprinkling of persons called by the newspapers, *eccentric characters*—individuals, namely, who, either from some real derangement of their understanding, or, much more frequently, from an excess of vanity, are ambitious of distinguishing themselves by some striking peculiarity in dress or address, conversation or manners, and perhaps in all. Hither, too, comes the saunterer, anxious to get

rid of that wearisome attendant, *himself;* and hither come both males and females, who, upon a different principle, desire to make themselves double."

If health be the motive, it will readily be conceded that a cheerful spirit, a disposition to be pleased, sympathy with the feelings of others, an entire suspension of care, and a fondness for rural scenes and enjoyments, are essential to the attainment of the object. The moody, selfish man can have no real enjoyment; his heart beats in unison with no human being; he measures mankind by the standard of his own sullen disposition; he is suspicious of motive when treated with cordiality, and when not caressed, he deems his merits overlooked; his pride is wounded, and he takes revenge upon the world by shrouding himself in his offended dignity, and burying himself alive in his own melancholy reflections.

The invalid is especially prone to be low-spirited and home-sick, and when the latter feeling possesses his mind, farewell to improvement! All the faculties of the mind seem absorbed in that one thought, and it is utterly useless to oppose it. Let me therefore advise those who visit the Springs for health, to do so with a firm resolution not to make themselves unhappy about home; or if they distrust their own firmness, let them take with them the objects of so much solicitude; otherwise their friends and themselves will be disappointed of happy results.

The man who considers the vast influence of the passions and the affections over that wonderfully contrived machine, the human body, will not think that I have attached too much importance to this matter. Would to God! it were more generally taken into view, and we should see many of the maladies that are now treated, and often aggravated, by the compounds of the apothecary, readily yield to the more rational prescription of pure air, free exercise, freedom from care, and cheerful society.

CHAPTER IV.

MINERAL WATERS.

Having decided on a visit to the Virginia Springs, the next consideration should be, to enquire what water is adapted to the case. This is, indeed, an enquiry of the utmost importance, as upon its decision may depend not only the recovery or disappointment of the invalid, but an injudicious direction may result in most deplorable consequences.

Whatever scepticism may have existed at a former period among medical men as to the efficiency of mineral waters, no man, in our day, who has any claim to rank as a physician, can call their powers into question; I shall not therefore enter into any argument on that subject. Unfortunately, however, they are no less potent for evil than good; and it therefore becomes my duty not only to point out the advantages that may be derived from their proper use, but also the injuries that may result from their improper prescription. Both these duties I mean to perform to the extent of the moderate ability I possess, without fear, favor or prejudice. I have no connection or interest, directly or indirectly, with any of their proprietors, and shall, therefore, be

guided in my estimate of them by my own reflections and observations, derived from an experience of many years. Erroneous opinions I may entertain, but on their honesty, at least, the public may rely.

Mineral Waters, as regards their properties, may be classed under the following heads: *Carbonated; Carbonated-Chalybeate; Sulphuretted; Chalybeate;* and *Saline;* and as regards temperature, into *Cold, Warm*, and *Hot.*

Carbonated Waters contain an excess of carbonic acid gas, which causes them to sparkle, and renders them tonic and exhilarating. Of this class is the Sweet Springs of Virginia. The *Red Sweet* comes under the second head, or Carbonated-Chalybeate; as the iron is probably held in solution as a carbonate by the carbonic acid. It is highly stimulant, exhilarating, and tonic.

Sulphuretted Waters are such as contain sulphuretted hydrogen, and are distinguished by the peculiar fetid smell of that gas. The White Sulphur, Salt Sulphur, Red Sulphur, and Blue Sulphur, are examples of this class.

Chalybeate Waters are characterized by a strong inky taste, and by striking a black color with the infusion of galls. Waters of this class are numerous in the United States as well as in Europe. They are powerfully *tonic.*

Saline Waters are those the prominent properties

of which depend on saline impregnation. Saratoga and the Rockbridge and Bath Alum waters are examples of this class; but, indeed, all our mineral waters, in various degrees, come under this head. They are aperient, sometimes purgative, and generally stimulant.

The temperature of all our Virginia Springs belongs to the *Cold*, except the Warm and Hot Springs in Bath county.

These definitions are intended to direct the attention of the reader to my account of such Spring as he may think most probably adapted to the case in question.

My plan is—first to give a brief description of each Spring and its environs, embracing everything I think may interest the reader, without excluding even occasional suggestions of fancy and imagination; for I do not think it necessary to be austere in order to be instructive. I shall therefore endeavor to be governed by the maxim so beautifully expressed, and illustrated in his own writings, by Horace:

> He who, with art and with discernment nice,
> Delights his reader and imparts advice—
> Who blends the useful with his dulcet notes,
> From public favor carries all the votes.

This, however, is a consummation rather to be desired than expected.

The second step will be to explain the peculiar

properties of each of those waters as they are known from analysis and experience, with directions how to use them, and in some instances, with cases illustrative of their virtues.

Next will follow a catalogue of the diseases in which they have been found profitable, and again of those in which they are contra-indicated.

Finally, the whole list of chronic diseases will pass under review. The author will give his opinion as to the water suited to each, and will support that opinion, when necessary, by reference to established authorities and analogies to the effects of the most celebrated Springs of Europe.

Before, however, he enters upon the individual Springs, he will devote a brief space to *General Remarks*—which are equally applicable to all mineral waters.

When the patient, under proper advice, has selected, and arrived at the Spring where he expects relief, there are some observances so essential to his success, that in a work professing in some degree to serve as his guide, it would be improper to omit calling attention to them. If he has directions from his family physician, the first question that suggests itself, is, Is he in the precise condition in which that physician saw him? If he be not, what change has taken place, and what new symptoms have occurred? It will readily be understood, that if the journey has been tedious and laborious, as in

visits from the distant States, the invalid may have suffered from a change of water, he may be in a state of over-excitement, or exhaustion, from want of sleep, fatigue, or want of accustomed comforts. He may, from exposure, have taken cold and be in the incipient stage of catarrhal fever. His liver may have been deranged by the journey. His arterial and nervous system may be abnormally excited. He may have headach, furred tongue; or he may be constipated, or in other respects "*out of sorts.*"

Now is a man in any of these conditions to plunge into the Warm, Hot, or Sweet Spring Bath; or is he to drink deep draughts of White, Salt, or Red Sulphur water? Assuredly, no!

It may be necessary to administer some agent to improve the diseased secretion, or to give a brisk purgative, or to prescribe rest and regimen for two or three days, or even to deplete by general or local bleeding. If the derangement be a slight one, he may possibly be able himself to administer the necessary preparatives, but if it be more serious, he should procure medical advice. It will be the wisest and safest plan, and may save him in the end time and money.

I know there are various rumors circulated to the disadvantage of physicians resident at the Springs. In past times there may have been impositions practised in regard to charges; but I have made some enquiries on this subject, and believe they

are now moderate and uniform. They are necessarily, however, somewhat higher than those of the family physician at home, as the expenses are also greater.

I have touched on this subject, because I have seen persons absolutely lose all the chances of benefit from the waters for want of judicious advice. Distant physicians—at least many of them—know nothing of the Virginia Springs, except as a group. Very frequently, they do not know the difference between the White Sulphur and the Red Sulphur; and often confound the latter with the Red Sweet. When, therefore, a physician, thus ignorant of the distinctive characters of those waters, undertakes to prescribe them, he is as likely to be wrong as right; and, indeed, we see, every season, many instances of such unfortunate mistakes. I spent a large portion of last season at the Salt Sulphur, and was consulted in several cases in which serious mistakes of this kind had been made. In every instance relief resulted from sending the patient to the water adapted to his disease.

Whether he employs a physician or not, let me say to the invalid: "Be in slow haste." Survey the whole ground according to the suggestions I have laid before you. Do not gulp down large quantities of water to expedite a cure. It would be about as wise as the conduct of a man who eats to repletion, in order to get the worth of his money,

or as that of the old negro who swallowed down all the physic left by his master, lest it should go to waste. Be moderate in all things. Take the water so as to insure its gradual diffusion through your system, that you may obtain that invisible and silent *alterative* action which is eventually to eradicate your disease. Go to work coolly, calmly and systematically, and you will own the benefit of the advice. Carry in your mind the following prescription, or something like it, and perhaps it will aid you in a regular plan of conduct:

If the weather and other circumstances admit, rise about 6, throw your cloak on your shoulders, visit the Spring, take a small-sized tumbler of water, move about in a brisk walk; drink again at 6½, continuing moderate exercise—again at 7; breakfast when you can get it, (generally it is about 8, and that is early enough,) but let it be moderate and of suitable quality. In most cases, a nice, tender mutton chop, or a soft-boiled egg, (be sure it is fresh, and not preserved in *lime*,) or venison, or beef-steak, is admissible. Eat stale bread, or corn mush, or hominy—the latter a delightful article to be found at some of the Springs—a cup of black tea, not strong, or a glass of *unskimmed* milk. From the above articles you may make a breakfast good enough for a king—if such an animal must live better than others of his species. You may well dispense with buckwheat cakes floating in butter,

omelets of stale eggs, strong coffee, hot bread, and all the other adjuncts of an epicurean table.

After breakfast, if you can command a carriage, or a horse, take a drive or ride, or amuse yourself as best you may until 12. Eat *no luncheon.* At 12, take a glass of water, walk in the shade, drink again at 12½—again at 1. Dinner is usually about 2. Eat for *nourishment* and not for luxury. Avoid bad potatoes, cabbage, beets, turnips, onions, salt meat of every description, pastry, fruits, either cooked or in their natural state. Though innocent elsewhere, they are not usually so at Mineral Waters.

Amuse yourself in social intercourse or gentle exercise until 6, take a glass of water—walk or ride until supper—take a cup of black tea or a glass of milk and a cracker. If you are a dancer, you may enjoy it, but in moderation, until 10, then retire to your room. Avoid the gaming table, as you would the road to death, and the gate to Hell.

Such is the *general* prescription I give for invalids. It will readily be seen that it cannot, and indeed ought not, to be carried out in detail in every case. There will be many modifications necessary, which a discreet invalid or his judicious physician will not fail to adopt.

If he finds himself improving, let him remain at the fountain; but if, after a fair trial of the water, taken after the system has been properly prepared, and accompanied by something like the course I

have suggested, the symptoms of his disease become aggravated, or new ones supervene, then he should abandon the use of the water, and try to find another better adapted to his case. But if, by an act of imprudence he renders that noxious which, under more auspicious circumstances, would have been salutary, he should not visit upon it the blame due to his own indiscretion.

It has been made a question how long a mineral water can be used with advantage. Different views are entertained on the subject; but I am convinced no general rule can be given, where so much depends on the disease, its intensity, the habits of the individual, and the effects produced.

That there is a point of *saturation*, there can be no doubt, and when that is reached—indicated by furred tongue, headach, and other unpleasant symptoms—it will be proper to intermit the use of the water for a few days, to take a little blue mass or other medicine, to make an excursion to the adjacent country or neighboring Springs, and again after a week to resume the use of the water. Symptoms indicating this condition are however often produced by some act of imprudence, and when this is the case, the first step is *reform*. With these observances, the season may be spent with advantage at any Spring that suits the patient's case, and I am sure that in cases of long-continued disease, it is folly to expect a radical cure in a few days. These

remarks are no less applicable to the bathing than the drinking waters; prudence being still more necessary in using the former than the latter.

Having now passed through all the preliminaries, I will plunge, at once, *in medias res;* and as the White Sulphur is the centre of this interesting group, as *Delphi* was the *Umbilicus* of the earth, I will make it the starting point in my eccentric orbit.

CHAPTER V.

WHITE SULPHUR SPRINGS.

"Hæ latebræ dulces, etiam (si credis) amœnæ,
Incolumem tibi me præstent Septembribus horis."

The lovely valley in which this celebrated spring gushes from the earth, is situated in Greenbrier county, a few miles west of the great Alleghany, and is watered by Howard's creek, a tributary of Greenbrier river. The valley may be said to extend several miles in a direction from N. E. to S. W., and in or near its centre is an extensive lawn, or, as the Greeks would call it, *Paradise*, which is the interesting object we have to describe.

Advancing from the junction of the Warm Springs and Sweet Springs roads, you enter through a narrow neck, and the beautiful vista breaks upon your view. Here, on your right, is a lovely grove and walks leading to the *Colonnade*—an imposing edifice, erected on a hill commanding a view of the valley to the southwest, and of the distant mountains. As you proceed along the public road you have, immediately on your right, an open and pretty lawn, flanked by a beautiful row of cottages, called Virginia Row. Across the

centre lawn from this, and parallel with it, on a pretty steep slope of the western hill, is Baltimore Row, consisting of some seven or eight highly ornamented cottages. Forming an angle with the lower end of Virginia Row, and parallel with the road, is Broadway, and across the road, directly opposite is Georgia Row. Proceeding a little farther, you pass the modest but picturesque cottage of Mr. Calwell, (the venerable proprietor,) and through a gate on your right enter the main lawn, studded in every part by most magnificent oaks, around the trunks of which are permanent seats, usually occupied by groups of visiters.

At this entrance is the Dining-house, a one-story unsightly frame building, which, with the Ball-room, a little above, most materially mars the beauty of the landscape. Opposite, along the brow of the hill, are Paradise Row, Louisiana Row and Alabama Row, extending in an irregular line from Baltimore Row already mentioned. At the upper extremity of Virginia Row is Bachelor's Row, and running across the lawn, and spoiling it, is Carolina Row. Besides these, there are Wolf Row and Spring Row,

"And deep and low,
Is Gaming Row."

About 100 yards west from the Dining-house is the Spring. Just around it there is a slight depression of the surface, and at the depth of about

six feet the water issues from a stratum of limestone rock. It is a copious stream, discharging probably twenty gallons in a minute. The pool is an octagon, about four feet and a half in diameter, and perhaps four feet deep, enclosed with slabs of freestone. The following description of this fountain was given some years since by Mr. Otis:

"The spring bubbles up from the earth in the lowest part of the valley, and is covered by a tastefully covered Pavilion, being a dome, supported by twelve Ionic columns, and surmounted by a graceful statue of Hygeia, the patron saint of healing, holding in her right hand a cup, as filled with water, and in her left a vegetable or herb. This statue was presented to the establishment by Mr. Henderson, a wealthy planter of Louisiana, who I believe went from New England.

"The Pavilion is surrounded by the grateful shade of old oaks, locusts, and elms; and hither resort, as to a common focus, the converging radii of the crowd, intent upon banishing disease or *ennui*, gaining health or admiration, displaying personal charms or sacrificing to fashion. The invalid, pale, emaciated and wretched, may be seen there at almost every hour, waiting till the giddy dance of the gay and volatile, who came there merely to gratify 'a truant disposition,' shall leave the waters free for him to drink and be healed. The feverish flush, the hectic of consumption, the tottering gait of rheu-

matism, the wasted form of the dyspeptic, may all be observed in contrast with the ruddy glow of manly health, the free, elastic step of youthful vigor, the gay smile of unpained hearts, and the loud laugh of mirth that knows not even the check of another's sufferings.

"At about an hour before dinner, the fashionable lounge commences. Then commences the playing of the musicians at the ball-room—a fine band of performers, who amuse the visitants to the Springs an hour at noon, and divide with the waters the attention of the promenaders."

At this period of the day, let us glance at the company for a few moments. I have already more than once remarked on the society to be met with at the Virginia Springs, and hinted the causes to which its excellence was to be attributed; but, having now reached the focus from which it radiates, I may be excused for dwelling on its phases with a little more minuteness. It is astonishing what a variety of character is presented here, to a close observer; I say *close observer*, because there are some who "have eyes and see not." To say that all the *elite* of the nation are annually seen here would not be true; but to say that a large portion of them, and of the learning, wit, beauty, elegance and fashion of the States is here assembled, is certainly no exaggeration.

Various are the motives which have brought them

together; but they may be reduced to three heads—health, avarice, and ambition.

Of those actually in pursuit of health, the number is comparatively small, though in course of a season they too form a goodly number, and to these may be added those who are attending on their invalid friends, and those who seek a continuance of health in a favorable climate. It is, however, no want of charity to assert, that ambition, *in some form*, is the motive that actuates a large portion of visiters at fashionable watering-places.

Is there a Presidential nomination in agitation, where else can the aspirant play his card with equal success, or gather with more certainty, the probabilities for or against him? Where, by well-timed flattery and attentions, can he make people more pleased with themselves, and consequently with him? Let us imagine this Presidential candidate taking his mid-day walk to the fountain with his arm through that of his *Nomenclator*.

They meet an elegant couple known to the great man's friend, and he throws a smile of kind recognition into his features, accosts, and introduces them:

"General, I have an unexpected but double pleasure in introducing Mr. and Mrs. C. Mrs. C., Sir, is the daughter of the late venerable D. of Carolina, and this gentleman is the nephew of the Hon. F. G. of Virginia, whom you no doubt knew in your earlier days."

"My dear Madam, I am overjoyed at seeing the daughter of my departed friend. We served together, and messed together, in the Congress of 1817, and a noble, talented man he was—the joy and delight of our circle, and the great man among the great men of that day. And in you, my dear sir, I recognise the lineaments of my venerated friend, your uncle, with whom I had many a tilt in honorable debate, in which I am not ashamed to own I was generally vanquished. Where are your quarters? I must have the pleasure of paying my respects."

"John, he is a fine-looking old gentleman; don't you think so; it was pleasant to hear him speak so warmly and flatteringly of my dear father."

"Yes, Mary, I think him vastly agreeable, and he seems to be a good judge of character and talents, from the manner in which he spoke of my worthy uncle. It was a lucky accident that threw him in our way; he will undoubtedly be the next President, and as the relatives of us both were his bosom friends, what may not be expected at his hands? He shall have all the influence I can bring to bear upon the election."

"Well, John, you are right; I, too, will aid you all I can. I will take Mrs. P. out in my carriage this afternoon; her husband is a delegate to the convention, and you know *her* will is *his* law. I should like vastly to spend a few winters in Washington."

The scene changes—it is morning—breakfast is just over, and a knot of fashionables are standing on the portico, cigar in mouth, hair smooth, beard combed, planning the amusements of the day:—

"Boy, call my servant."—"Davy, bring out my buggy and the bay poneys. The blacksmith pricked Xanthus a little yesterday; confound the awkward fellow! is he entirely over it?"

"He yields a little yet, sir."

"Well then let him rest to-day, and bring my gray mare."

"The gray mare limps a little too, sir; she got her foot fastened in the stall last night; it is but a trifle, but it would be well to ——"

"Well, well, bring *Janus;* after all he is my favorite riding horse. I will show you, gentlemen, a grandson of Randolph's Janus—one of the best bred horses that has ever been in Virginia."

"Ha! yes, truly, that is a fine horse, see what a fore-arm he has, notice his neck and withers. What a beatiful head! What are his gaits?"

"He trots, canters, paces, gallops, and can walk six miles an hour."

"If it is not an impertinent question, what do you hold him at?"

"I never set a price upon him."

"Will you take $300 for him?"

"Ha, ha! that's good. A friend might have him for $500—but not a cent less."

"He is mine, sir."

"Well, I am sorry to part with him, but I have so many of them. See, Davy is blubbering; I am sorry for Davy's sake too, but his pet must go. I have passed my word and it must now be so."

In those two we see specimens of the gentleman jockey, and the green youth, who has just come in possession of a large estate, and affects to be a great judge of horses. Davy, too, who cries so good-naturedly is *up to snuff*, and a pinch above it.

Moody and sullen must be the soul of that man, who could not forget here, at least for one hour every day, his stomach, liver, and spleen, and feast his eyes on the lovely beings who congregate here to quaff these living waters. But if there be any such unsocial mortal, I would fain draw him into a better humor with the world, and to this end place him by an old stager, who will introduce to his notice some interesting individuals.

Ha! here is the very personage I desired. Mr. *Pippin* is troubled with acid stomach to-day, and is just in the mood to elicit his sarcasm. He tips Mr. *Goodall*:—"Can you inform me who that straight, starched-looking man is now approaching with a young lady, who seems to be his granddaughter?"

"My good sir, that is Judge L. of A., and the young lady he is so interested in is a lovely girl of 18, to whom he is paying his addresses."

"Pugh! why he looks like a rack, on which she

might hang her bonnet. See how sleek his wig is. Those teeth are all false. I guess his garments are all wadded. He, he, addressing that pretty creature! why, sir, he is at least—"

"He is, *by his own account*, sir, just 48 last Whitsuntide. It is only a difference of 30 years; that is nothing in our day; it is quite the fashion. Young girls are thoughtless, sometimes; they want some one to look up to. What if this gentleman *has* a few false teeth, and a well-combed wig; they become him. He is a man of fortune and talents, and the young lady will have agreeable companions in his youngest daughters."

"Youngest daughters! zounds, you will make me angry. It is a sacrifice, sir, a horrid sacrifice—and all for that starched, made up creature, tricked out with dead mens' bones and hair."

"Fy, fy, Mr. Pippin, you are ill-natured to-day. He is indeed a little vain, and rather boyish; but widowers, *you know*, are somewhat excusable, if they are a little frisky sometimes. Pray, Mr. Pippin, are you not yourself of that interesting class of persons?"

"Yes, sir; yes, I am a widower, but since I buried Mrs. P.—she was my third and best beloved wife—I have never thought of another."

"Pray how long is it since that melancholy event?"

"It will be just three months to-morrow; but, sir,

pray tell me who that interesting-looking woman is with a pretty, curly-headed boy by her side? Her manner seems extremely winning. Mark that fascinating smile. How beautifully white her teeth are! Her lips are like two ripe cherries. And what a bust! Ah! there is indeed a woman!"

"So, so, Mr. Pippin, that will do pretty well for a widower of 'three months to-morrow.' No wig, no false teeth, eh! O! you widowers are all of the same chip: now, here am I, an old bachelor as cold as an icicle, while you"—

"Have the heartburn, Mr. Goodall; it is but a symptom of dyspepsia; but, in truth, that *is* a fine-looking woman; can you tell me aught of her history?"

"O yes, I can tell you all about her: She married the first time, for love, a laborious, talented lawyer of New Orleans, but hard work and a bad climate led him to an untimely grave. Some ten years since she gave her hand a second time, to a wealthy old planter, who has left her a widow with an only child, that little boy by her. She is reported to be a *millionaire*, and is again in the market. Who bids?"

"I see you are disposed to be a little merry at my expense, but in truth I feel a little *queer*. As the Mantuan bard expressed it:

'Aquosco veteris vestigia flammæ.'

But she is gone. Now tell me who this couple are.

They are decidedly *distingué*. He is a foreign ambassador, I suppose, or some high dignitary. A fine-looking man, but is conscious of it; affects youth, evidently a man of the world, feels his consequence, but looks condescending and gracious. His wife is an intellectual-looking person, much younger, though she seems to desire to conceal the disparity, by her plainness of dress and unassuming manner. Who are they?"

"They are the Hon. R. C. and his lady; they are not long married. Hearken on my right—the starched gentleman seems to envy him; he says C. was a lawyer of extensive practice in Maryland when he himself was yet a boy."

"Whew! it is sheer envy: the starched, upright gentleman is as least as old, and neither is a chicken; both are on the shady side of threescore years. C. seems to enjoy his mortification, and to feel a pride in shewing off his fourth wife. You see, Mr. Pippin, there is a chance for you yet; for, bating the dyspepsia, you are as young and good-looking as either of them."

"But look up the walk, and see approaching the *Belle* of the season and her satellites. Mark the grace of her manner; with what ease she seems to bestow an equal share of her favor on all. Her soul is laughing through her bright, blue eyes, and no doubt the little coquette is laughing in her sleeve at some of the silly pretenders to her hand. Cast

your eye towards yonder elm, where you see two middle-aged men seated. One of them is her father—an industrious, frugal, respectable man, who has accumulated a large fortune, which is quite as magnetic to those young bucks as the young lady's charms, transcendent and acknowledged as they are. The old gentleman's eye follows her with deep interest, and she too, though young, is not to be caught with chaff."

A hundred pictures might be drawn of oddities, absurdities, eccentricities, nonentities, ambitious mamas, anxious papas, fascinating misses, agreeable spinsters, delectable fops, twaddling gossips, and stupid book-makers; but, as a worthy divine of my acquaintance says, "I have not time for detail."*

In the height of the season, from the 15th of July to the 20th of August, it is a gay, lively and exhilarating scene. The arrivals and departures; the meeting with old acquaintances, and the forming of new ones; the congratulation of friends on improved health; the brilliant array of ladies, on the walks and in the ball-room; the cheering sounds of a fine band of music; the various groups and their varied discussions on love, politics and gastronomy; and in the dining-room, the cursing of bread, abominating the butter, detesting the coffee, disliking the tea, scolding the servants, then the *gal-*

* It may be proper to say that these pictures are altogether creations of imagination.

lopping consumption of mutton, the clashing of knives and forks, the trotting of negroes, the forlorn looks of those neglected, and the self-satisfied air of those who are provided with private dishes; all these might afford subjects of contemplation to the philosopher, and employ the pencil of a Hogarth.

In truth, there is no place where one may see more of human character in a short time. Littleness and selfishness betray themselves at every turn; while true politeness, founded on its only basis, a good heart, will be visible in all the acts of a high-minded man or benevolent woman. I have often amused myself by watching this extraordinary 15 minutes scene of the dining-room. Only imagine 600 people in one room—all having been helped, eaten their fill, and wiped their mouths in 20 minutes. All the improvements of the day fall short of this wonderful rapidity of mastication and deglutition.

This may be all very well for the hale, robust man, but for a feeble invalid, or a delicate lady, it is vastly uncomfortable. There is, however, no cure for it under the present system; therefore those concerned should try to make the best of it. The visiters themselves are mostly to blame. If all were willing to fare alike, and not have private dishes, the table would be much better served; but this never will happen, while selfishness forms so large an ingredient in the human character.

The lodging-rooms are generally comfortable and

well supplied with the requisite furniture. The bathing establishment is fitted up with neatness, and obviates every objection hitherto made in respect to that inconvenience. At the eastern entrance there is a large *Hotel*—called Mastin's—which also is now under control of the Messrs. Calwell. The entire means of accommodation enables them to take in about 700 persons.

But it is now time to leave these matters and turn to those of greater importance—the properties of the water, and its adaptation to the various diseases that present themselves in search of relief. It is a subject of great interest, and I bespeak the attention and patience of the reader in travelling over the details necessary to illustrate the virtues of this valuable medicinal agent.

Mineral Waters may be conveniently classed under the three following heads: *Stimulants*, *Sedatives*, *Roborants*. Under the first will be found the White Sulphur, the Salt Sulphur and the Blue Sulphur Springs. To the second may be referred the Red Sulphur. In the third are properly placed the Sweet Springs, and the Red Sweet Springs.

Confessedly at the head of all the great Springs of Virginia stands the White Sulphur, and it is therefore highly necessary to have some definite idea of its properties and the manner of its action. In forming an opinion of these we have to be guided by analysis and observation; and although they are

by no means satisfactory guides in every particular, yet by following them we shall not be as apt to fall into the ditch, as by rushing on headlong without the light of either.

As the first step, then, in the guidance of the reader, I take the analysis of Aug. A. Hayes, Esq., of Roxbury, Massachusetts, upon which I have no doubt entire reliance may be placed. In the next place, I will give a *comparative* sketch of the White and Red Sulphur Springs; the latter having been also analysed by the same gentleman. It will then be seen how those two remarkable waters differ, and how entirely opposite they are in many respects.

ANALYSIS.

"This water is colorless and transparent—when agitated, it sparkles from the disengagement of air bubbles. Taste hepatic, resembling that of a solution of hydro-sulphuric acid in water. Exposed to the atmosphere, the hepatic odour is succeeded by a slight earthy odour. It blackens metals and salts of lead. Compared with pure water, free from air, its specific gravity is 1.00254.

"50,000 grains (about 7 pints) of this water contain, in solution, 3.633 water grain measures of gaseous matter, or about $\frac{1}{14}$ of its volume consisting of—

Nitrogen gas, - -	1.013
Oxygen gas, - -	108
Carbonic acid, - -	2.444
Hydro-sulphuric acid, -	68
	3.633

"One gallon, or 231 cubic inches of the water contain 16 $\frac{739}{1000}$ cubic inches of gas, having the proportion of—

Nitrogen gas, - -	4.680
Oxygen gas, - -	498
Carbonic acid, - -	11.290
Hydro-sulphuric acid, -	271
	16.739

"50,000 grains of this water contain 115 $\frac{735}{1000}$ grains of saline matter, consisting of—

Sulphate of lime, - -	67.168
Sulphate of magnesia, -	30.364
Chloride of magnesium, -	859
Carbonate of lime, - -	6.060
Organic matter, (dried at 212° F.,)	3.740
Carbonic acid, - -	4.584
Silicates, (silica 1.34, potash 18, soda 66, magnesia and a trace oxyd. iron,) - -	2.960
	115.735

"Unlike saline sulphuretted waters generally,

this water contains a minute proportion of chlorine only, the sulphates of lime and magnesia forming nearly ten-elevenths of the saline matter.

"The alkaline bases are also in very small proportion, and seem to be united to the silicious earths, in combination with a peculiar organic matter. The organic matter, in its physical and chemical character, resembles that found in the water of the Red Sulphur Springs, and differs essentially from the organic matter of some thermal waters.

"In ascertaining its weight, it was rendered dry at the temperature of 212° F. When dry, it is a grayish-white, translucent solid. When recently separated from a fluid containing it, it appears as a thin jelly or mucilage, and gives to a large bulk of fluid a mucus-like appearance, with the property of frothing by agitation. It unites with metallic oxides and forms compounds both soluble and insoluble. In most cases an excess of base renders the compound insoluble. The compound with the oxide of silver, is soluble in water; with baryta and lime it does not form a precipitate, while magnesia forms with it a hydrous white, gelatinous mass. In acids it dissolves, the oxy-acids do not change its composition, while they are diluted and cold; by boiling they produce sulphuric acid from its constituent sulphur, and change its carbon to other forms. In contact with earthy sulphates, at a moderate temperature, it produces hydro-sulphuric acid, *and to*

this source that acid contained in the water may be traced. This substance does not rapidly attract oxygen from the atmosphere and from colored compounds, as some other organic compounds do. The proportion of organic matter, like that usually contained in our waters, is in this water very small, until forty-nine-fiftieths of the bulk of a quantity is evaporated, the residual matter does not become colored, and when the saline residue is dried it is of a pale yellow.

"The medicinal properties of this water are probably due to the action of this organic substance. The hydro-sulphuric acid resulting from its natural action is one of the most active substances within the reach of physicians, *and there are chemical reasons for supposing that, after the water has reached the stomach, similar changes, accompanied by the product of hydro-sulphuric acid, take place.*

"Substances, having characters similar to those presented by this matter, have been classed with the lower order of living plants. With such matters, this substance does not belong in the state in which it is found in the water, for it there forms compounds, the result of chemical affinities, wholly incompatible with vital action. In its altered state, produced by atmospheric agencies, it may nourish plants and develope the growth of seeds fitted to such a soil as its elements form.

"AUG. A. HAYES.

"*Roxbury Laboratory*, Feb. 1st, 1842."

COMPARATIVE ANALYSIS OF THE RED AND WHITE SULPHUR SPRINGS.

WHITE SULPHUR.		RED SULPHUR.	
"50,000 grains (about 7 pints,) of this water contain in solution 3,633 water grain measures of gaseous matter, or about one-fourteenth of its volume, consisting of —		"50,000 grains (nearly 7 pints,) of this water contain, dissolved as gases, water grain measure —	
Nitrogen gas,	1,013	Nitrogen gas,	1,497
Oxygen gas,	108	Oxygen gas,	260
Carbonic acid,	2,444	Carbonic acid,	1,245
Hydro-sulphuric acid,	68	Hydro-sulphuric acid,	86
	3,633		3,088
"50,000 grains of this water contain 115.735 grains of saline matter, consisting of —		"50,000 grains of this water afford, of —	
Sulphate of lime,	67.168	Siliceous and earthy matter,	70
Sulphate of magnesia,	30.364	Sulphate of soda,	3.55
Chloride of magnesium,	.859	Sulphate of lime,	47
Carbonate of lime,	6.060	Carbonate of lime,	4.50
Organic matter, dried at 212° F.,	4.740	Carbonate of magnesia,	4.13
Carbonic acid,	4.584	Sulphur compound,	7.20
Silicates: silica, 1.34, potash, .18, magnesia, and a trace oxyd. iron,	2.960		
	115.735		20.55"

An inspection of the above comparative tables exhibits some curious and important facts. First, the whole volume of gas in an equal quantity of water (50,000 grains) of the White exceeds that of the Red, by 545 grains. Secondly, the carbonic gas in the White is nearly double that of the Red; thirdly, in nitrogen and oxygen, the Red predominates, and fourthly, (what no one would suspect,

judging from the sense of smell,) there is less sulphuretted hydrogen in the White than the Red, by nearly one-fourth.

Again: there are in the White $115\frac{735}{1000}$ of saline matter to $20\frac{56}{100}$ in the Red, or about five times as much. Included in this amount, however, there is of the peculiar organic matter termed sulphur compound, in the White only $3\frac{749}{1000}$—while in the Red there is $7\frac{20}{100}$, or nearly double.

A careful review of these *data* will enable us to judge with some accuracy of the probable mode of action of both waters. First, as to the gases: The most palpable agent of course, in all sulphur waters, is that which distinctly marks their character, viz: sulphuretted hydrogen, or hydro-sulphuric acid gas. It is known to be the most active of all the gases found in those waters, and as their constitutional effects on the human system in a state of disease is mainly to be expected from the searching and alterative power of this gas and its combinations, it is essential to understand whether it belongs to the class of stimulants or sedatives. An attempt has been made to characterize it as a "*Nervine Stimulant*," and to establish as a fact that the use of the water fresh from the spring was in many cases highly deleterious, while the same water, after this noxious gas was suffered to escape, became admirably adapted to those cases.

Is sulphuretted hydrogen a stimulant? Hear

the answer: "Sulphuretted hydrogen is a colorless gas, having the odor of putrid eggs; it is most offensive when in small quantity, when a mere trace is present in the air. It is not irritating, but, on the contrary, powerfully narcotic. When set on fire, it burns with a blue flame, producing water and sulphurous acid when the supply of air is abundant, and depositing sulphur when the oxygen is deficient. Mixed with chlorine it is instantly decomposed, with separation of the whole of the sulphur."* Here then is at once an authoritative contradiction of a bold assertion. The agent represented as a stimulant is in fact a powerful sedative, as will more fully appear by the illustrations that follow.

It has been seen by the analysis, that this gas in the Red Sulphur is more abundant by nearly one-fourth than in the White. I have never yet seen any intelligent man who knew anything of the Red Sulphur, that did not give it rank as a sedative. The following quotation from Dr. Moorman admits the less stimulant character of the Red:

"The Red Sulphur is the least stimulating of our sulphur waters, and by some is even regarded as a sedative. It is employed with good effect in many cases for which our other sulphur waters are prescribed, and being less exciting than any other, may be successfully used in some cases in which other waters would be contra-indicated."

* Fowne's Chemistry, p. 161.

The increased odor of the White Sulphur is readily accounted for by the fact already stated by the chemist, that the smaller the quantity of gas there is in the atmosphere the more intense is the smell, while from the same paragraph we learn that when there is a deficiency of oxygen combined with it, it deposits sulphur more readily. I ask the reader now to look at the comparative analysis of the Red and White Sulphur waters. He will see that the oxygen in the Red being more than double that in the White, the *gas* is retained longer, while the smaller amount of oxygen in the White causes the gas to be deposited in the form of sulphur; and this accounts for the more abundant deposit of sulphur by the White than by the Red. These are important facts, all proving the falsity of the unfounded theory that has been so confidently propagated.

This valuable medicinal agent, then, has been wronged, if not slandered. There cannot be a doubt that many try this water, annually, with whom it disagrees, as may any water when improperly used; and in such a case it is the duty of a candid physician to direct his patient to some other Sulphur Spring; or if he has reason to believe, that from some peculiarity or idiosyncrasy, there is no one of those waters adapted to the case, he should direct him to some other of the great family of springs in that region, or should send him back to the comforts and endearments of home.

In relation to the other gases, it appears that carbonic acid largely predominates. It is this, probably, that gives the water that brisk, light feeling in the stomach, which is so generally ascribed to it.

Nitrogen gas, of which it also possesses a considerable volume, is believed to possess of itself very little medicinal power, though it is impossible to say how it may act in combination with other agents. That it has no stimulant tendency, may be inferred from its being found more largely in the Red Sulphur.

We must, therefore, look for the stimulating properties of the White Sulphur and other analogous waters, to something besides the gases, unless indeed the carbonic acid, as is highly probable, contributes to that property. But to the presence of a large amount of saline matter is, no doubt, most of all, owing its stimulant properties, and to the fact that some of the saline ingredients dissolved in carbonic acid, and in well-balanced proportion with the other gases, act not only on the digestive organs, but are carried directly into the system by the arsorbents.

The visible effects of mineral waters are, perspiration, secretion of the mucous surfaces, increased or moderated, and modified excretions of the abdominal viscera, stimulation of the organic powers to a higher grade of action, sedation of over action, and as a consequent of either of the two last, a toni-

fication or invigoration of the system, and its restoration to a normal condition. When these changes occur, they are perceptible to our senses; but that still and silent progress of change or *alterative action* that produces these results is as invisible as man's conscience and motives in the moral world.

From what we know, however, we may draw inferences relative to things we do not know, which if not in every respect satisfactory, yet materially aid us in the development of physical causes and effects. This mode of investigation is daily producing the most extraordinary results; and although there is manifestly a goal beyond which human research and reason cannot pass, yet there is still left an almost infinite field for the exercise of man's ingenuity.

Returning from these digressive reflections to the immediate subject before us, let us endeavor to trace the peculiar mode of action of the White Sulphur water; and as the same remarks will be in a great degree applicable to the Salt Sulphur and other Springs, resembling in their *general* properties this celebrated fountain, there will be less need of dwelling with minuteness on them when I bring them before the reader.

I have shewn that, so far from sulphuretted hydrogen being a stimulant, it is highly sedative, and I illustrated this fact by the Red Sulphur, which, though an acknowledged sedative, contains more of

the gas than the White Sulphur; now we may see that the preponderating salts in the White are sulphate of lime, sulphate of magnesia (Epsom salts) and carbonate of lime. No one will deny that these are stimulant salts, and if taken without the modifying agency of the sulphuretted hydrogen and the sulphur compound—that bland substance so satisfactorily designated by the chemist—the probability is, that their action would be transient and accompanied by no constitutional change. They would act, no doubt, as Saratoga water, though in an inferior degree, in producing fluid evacuations, with but little or no effect on the liver, spleen, mucous surfaces, or skin. As especially bearing on this point, I make quotation of the following judicious remarks of Dr. Armstrong:

"The first thing that struck me in regard to the operation of the Harrowgate sulphurous water, was, that the bowels might be opened by it day after day, week after week, without debility being produced; nay, on the contrary, most patients gained both strength and flesh, notwithstanding they had daily and copious evacuations. This circumstance alone seemed to give the sulphurous water a most decided advantage over the purgatives in common use; for it must be admitted, that they cannot be long continued in chronic diseases without diminishing the strength. For some time, therefore, I solely attributed the efficacy of the sulphurous water to

its purgative property, together with the peculiarity, that its long-continued exhibition caused no debility; and as for a considerable period the complaints in which I prescribed were chiefly stomachic and hepatic, I was the more confirmed in this opinion as to its operation. But cases of chronic disease fell under my observation at various times, in which the sulphurous water was most decidedly beneficial, and that too where the bowels had been scantily moved; and as the effects in these cases could by no means be attributed to its action on the intestines, I was led to enquire whether it might not have some agency which had escaped my observation. In attending more closely to the changes which the water induced, I found that it acted most powerfully on the secretory glands of the body, but more especially on the liver, on the kidneys, on the mucous coat of the intestines, and on the skin.

"Here a new operation was presented to my enquiry. In reflecting on all the facts which had come before me, I ascertained that this water had removed chronic affections of various internal and external parts; and hence at length the inference followed, that it was really beneficial as a very powerful alterative, and that it had a direct influence over chronic inflammation, wherever it be seated, whether in the viscera or upon the surface of the body. In still pursuing the consideration of the subject, I was fully satisfied that I had arrived at a general

principle in the operation of the sulphurous water: for, some time afterwards, on trial of that at Dinsdale, near Darlington, I found that its effects were also very powerful in chronic inflammations, though it be but slightly laxative. It at once, therefore, occurred to me, that the *chief efficacy of the sulphurous waters of Harrowgate and of Dinsdale depended upon the sulphuretted hydrogen gas which they both contained;* and indeed the principal difference between the two waters is, that the first contains less of the sulphuretted hydrogen gas, but more of the saline ingredients than the last, so that by adding very small doses of purgative salts to the one, it may be made to operate like the other in many cases."

The White Sulphur, like the Harrowgate water, owes its power over the secretory glands, mainly to the sulphuretted hydrogen, while the admirable combination of active salts makes it a resolvent, and imparts to it an expulsive power over the secretions. It is its richness in these salts that renders it superior, in hepatic and other visceral diseases, to the Red Sulphur, while these very ingredients forbid its use in organic diseases of the lungs, the heart and uterus.

If the premises I have adopted be correct, it follows, that relief may be generally expected in the chronic forms of those diseases that will admit of stimulation of the organism. Accordingly, we find that such is in fact the case, as may be seen by in-

spection of the large class in which they are known to be the most efficient. These are:

Diseases of the liver—such as engorgement, induration, concretions, jaundice and other functional aberrations and abnormal conditions, usually the consequences of exposure to miasma and residence in sickly southern localities; constipation, bilious diarrhœa, dyspepsia in some of its forms; neuralgia, proceeding from impaired digestion, hæmorrhoids and dry piles, chlorosis, cutaneous eruptions generally; hysteria, chorea, symptomatic paralysis, symptomatic epilepsy, amenorrhœa, chronic rheumatism and gout, anasarca, enlarged spleen, secondary syphilis, gleet, &c.

The use of the water is contra-indicated in affections of the larynx, trachea and bronchia; in fine, in all irritations of the mucous membrane, whether of the thoracic or abdominal viscera. In phthisis, organic or functional disease of the heart, chronic irritation of the uterus, dysmenorrhæa, menorrhagia, cancer of the uterus, idiopathic epilepsy and paralysis, and all irritations of the brain or spinal marrow.

Those enumerated are only a portion of the diseases that make up the debit and credit account; and the side to which may be brought the balance in any one season, will mainly depend on the ability and honesty of the medical adviser, on whose shoulders accordingly rests no inconsiderable responsibility.

CHAPTER VI.

I now proceed to glance at some of the diseases I have enumerated as relieved by the White Sulphur.

My readers will of course understand that I do not attempt an elaborate treatise on any of the subjects discussed in this work. My highest ambition is, to throw out some hints that may serve to direct the young, inexperienced physician, or the intelligent patient, capable in some degree of treating himself—if, indeed, there be any one, professional or unprofessional, capable of managing his own case, which I very much doubt, owing to that principle of self-love, and consequent self-indulgence, which is inherent in man.

When Menenius Agrippa quelled the turbulent passions of the Roman populace, by repeating to them the beautiful fable of the stomach and members of the human body, he set forth, in bold relief, the advantages derived through the agency of that great reservoir, from which proceed the elements of that vital current that swells the muscular arm of the patriot, and tinges with a modest blush the

maiden's cheek; but if it had equally suited his purpose, he might have depicted, with no less truthfulness, the wan cheek, the tottering step, the sunken eye, the palsied tongue, produced by pampering it to repletion.

The stomach is situated immediately below the diaphragm, the *cardia* being nearly opposite to the middle of the vertebræ; from thence it bulges out to the left side, the great curvature coming forward and downward; it then passes on to the right side, rising upwards, so that the *pylorus* is not much farther from the diaphragm than the cardia; when, therefore, a man is in an erect posture, substances must ascend to pass through the pylorus. In its flaccid state it occupies the *epigastrium* and part of the left *hypochondrium;* whilst, when distended, it exchanges its flattened for a rounded form, and fills almost completely the hypochondrium, the greater curvature descending towards the umbilicus, particularly on the left side. On account of the resistance opposed by the vertebral column, the posterior surface of the stomach cannot distend itself in that direction; this viscus is therefore wholly carried forward. The dilatation of the stomach produces very important changes in the abdomen. The total volume of the cavity augments; the belly juts out, the abdominal viscera are compressed with greater force. At the same time the diaphragm is pressed towards the breast, and it

descends with some difficulty, whence the respiratory motions are impeded.

The villous or mucous membrane has a whitish-red appearance, and presents a singular velvet-like appearance, from which it has derived its name. Not being elastic, it has numerous folds, or *rugæ*, which supply this deficiency, and serve to accommodate the capacity of the stomach to the bulk of its contents, and at the same time to retain the aliment until it is duly elaborated.

The stomach is abundantly vascular; indeed it may be observed, that few structures receive so much blood as this organ. Four arteries, three of which are considerable, are exclusively devoted to its service, and their several branches, communicate most freely with each other in all directions by innumerable anastomoses; and being tortuous they can accommodate themselves to the full and empty states of the cavity. Nor are its nerves less numerous; they are composed of the eighth pair, and a great many filaments proceeding from the *solar plexus* of the great sympathetic.

The different secretions concerned in digestion are thus enumerated by Dr. Paris:

1st. *Saliva*, which is formed by glands whose excretory ducts open into the mouth. 2d. *Mucous matter*, which results from the action of numerous follicles situated in the interior of the cheeks and palate, upon the back of the tongue, on the anterior

aspect of the *velum* and on the *uvula.* 3d. *Gastric juice*, formed by the glands of the stomach, and the *mucus* secreted by its membrane. 4th. *Mucus intestinalis*, or proper juice of the duodenum and small intestines. 5th. *Bile*, which, being secreted in the liver, and rendered more stimulating in the gall bladder, is afterwards carried into the duodenum. 6th. *Pancreatic juice*, which is secreted in the pancreas, and carried into the duodenum along with the bile; to which, perhaps, may be added the *watery fluids* thrown into the intestines by the exhalants."

If we may be allowed to conceive a condition of the system in which all the organs of digestion accurately perform their respective functions, and harmonise beautifully with each other, like the well-oiled mechanism of the steam engine, we may well believe it a state of *perfect* health; and indeed, it were difficult to connect with such a condition the idea of disease in any organ of the human body. But, as in the engine, besides the wear and tear incident to *matter*, an unskilful and careless engineer, who piles on fuel, raises the steam above the point of security, and neglects the safety valve, hazards a concussion awful to contemplate; or by delaying some repair which at first sight may seem of minor importance, deranges first one portion of the machinery, then another, until all parts become finally implicated and obstructed. So it is with the

human frame; if from any cause it receives a shock which overpowers its vital energies, it succumbs to the blow. If any of its organs become so impaired as to produce diseased functions, a continuance of that condition will, in the end, react upon the organ, involve other organs and their functions in the derangement, and finally undermine the constitution.

Dyspepsia is most generally produced by a series of errors in diet; in which, of course, we include improper potations. Every man has a certain degree of vital energy allotted to his organism, which constitutes health, and an addition, or diminution therefrom, elevates or depresses that power so as to constitute an abnormal condition. Let us apply this principle to the stomach, and we can very readily understand how it becomes diseased. Let us suppose the vital energy possessed by the stomach of A., who labors on the canal, to be 20, and that of B., a merchant, who is all day hanging over his desk, to be 15; now A. rises at dawn, works until 8 A. M., in all probability has roused into action all the organs of secretion and excretion, and has a relish and appetite for his breakfast. He needs no buckwheat cakes floating in butter, to excite his salivary glands, and he is contented with a plain but plentiful meal. B., on the contrary, sleeps, or rather lies in bed, until 7 A. M., and dresses in time to meet his family at the breakfast-table at 8;

his bowels are constipated, his liver is torpid, his kidneys are sluggish, his skin is dry, he has a morbid appetite, he eats hot rolls and butter, beefsteak, or mutton-chops, or likely enough both. A dish of stewed oysters now makes its appearance, and he cannot resist the temptation—some three or four varieties of hot cakes are served, and it is necessary to decide *which is the best;* so he must have a *nibble* at all. Two large cups of coffee accompany this meal, and he is literally crammed to repletion. A. returns to his work, whistles or sings all the while, or cracks a joke with his fellow-laborer; at noon he eats his allowance of bread and fat bacon, at night he again takes his homely meal, and at a proper hour retires to his hard couch and enjoys a depth of slumber that kings may envy. B., after the meal through which we have already accompanied him, walks to his counting-room, pores over his books, has a note to pay in bank, for which he is not prepared, is fretted, or perhaps alarmed, leaves his business at 3 P. M., takes a glass of *toddy* to stimulate his appetite, eats turtle soup, corned beef, roast mutton, baked oysters, boiled fish, wild ducks, bread, potatoes, hominy, celery, variety pudding, crackers and cheese, apples and raisins; he drinks ale, champagne, sherry, and perhaps port. He lounges away his time until supper, takes tea or coffee, writes until late, and then retires to repose!

Now observe that the conduct of these two per-

sons is in the inverse ratio of their vital powers. While A. invigorates his digestive organs by just that degree of stimulation which Nature informs him is necessary to repair the waste by the different excretions, B. over-stimulates his already feeble stomach, gives it a task to perform which would oppress even the vigorous powers of A., and by a succession of such abuses lays the foundation of maladies as grievous as they are unmanageable. Will it be said that I have caricatured the habits of B.? Alas! there are too many fac-similes, and I am very certain that I might, with truth, have given a deeper coloring to the picture, in many cases.

If B., whose digestive powers may perhaps be adequate to a slice of cold bread and half a pound of roast beef or mutton, takes the varied dinner I have already described, or something like it, he applies an over-stimulus to the nervous expansion: the nerves notify the brain that an additional supply of blood is necessary; the brain sends its orders to gather the blood from the capillary system, and, guided by anxiety of the nerves, directs the vital current to the mucous coat; next follows plethora, or engorgement; then succeeds irritation of the gastric nerves; then follows an excessive secretion of acid and of air; next come pain, flatulence, heartburn, and *innumerable ills.*

A succession of irritations will produce *inflammation*, and then follows a defective or highly vitiated

secretion; the pyloric glands no longer discriminate between the portions of chyme presented to them—it enters the duodenum in a vitiated condition—the nerves of this organ demand the sympathies of the liver and pancreas—these are over stimulated, irritated, engorged; they send through their ducts highly concentrated and acrid secretions, the mucous coat of the intestines is irritated, and the result is mucous diarrhœa or dysentery. In another portion of this work I have to consider the effects produced by disease of the stomach on the lungs and bronchi; I shall, therefore, for the present only remark, that they are both extensive and important. The heart, the kidneys, the skin, and the brain, are all most seriously affected by derangement of the digestive apparatus.

The symptoms of Dyspepsia are, *want of appetite*, *morbid appetite*, *nausea* immediately after eating, *vomiting* sour matter frequently without previous nausea, *flatus* and *eructation*, *cardialgia* or *heartburn*, *spasm* of the stomach, *pyrosis* or water-brash; *costiveness*, and almost necessarily, *hypochondriasis*, are attendants upon most cases of dyspepsia. Two or more of these symptoms are invariably present, even in the slightest forms of dyspepsia, and to counteract them and restore normal functions are the objects to be kept in view. It is very plain that the first step to be taken towards such a result is, the reform of any bad habits of food or drink, want

of exercise in the open air, intense application to business, or any other agency that may have been instrumental in inducing and fostering the disease. Medicine can do less, perhaps, in this disease, than any other. Abstinence from improper articles of food or indulgence of any kind; regularity in taking meals, exercise and sleep; keeping the external covering of the body in good condition by regular ablutions, and the bath if possible; encouraging cheerfulness and hopefulness; travelling in suitable seasons, and especially visiting the Mineral Waters: these are the means to be relied on in the relief of dyspepsia.

From the constitution of the White Sulphur water, it may very reasonably be anticipated that it is well calculated to counteract many of the symptoms I have enumerated, and consequently give prompt relief. Such, indeed, is the case, and accordingly we annually see many cases of relief here. It will not, however, succeed in *every case;* but when it fails, it is usually in cases complicated with affections of the heart or lungs, or some other organic lesion in which it is contra-indicated.

In these cases, the Red Sulphur, or the Iodine Salt Sulphur, or the Alum Springs, in Bath and Rockbridge counties, will probably be more appropriate; but in discriminating between them, there is need of some tact and experience. The old Salt Sulphur is also available, and very generally suc-

cessful, in this disease, as we shall see when treating of that spring.

In some cases of dyspepsia, when all the others fail, prompt and decided relief will be had at the *Sweet Springs*, and at the *Red Sweet Springs*, both from drinking and bathing. It will be seen also, that much may be expected from a proper use of the Hot and Warm Springs.

Diseases of the Liver.—This important organ is the seat of numerous deviations from a healthy condition, and seems especially to suffer from high atmospheric temperature. Accordingly we find that in the Southern latitudes, and in locations subject to noxious exhalations, that class of diseases usually denominated *bilious*, is most frequent. The forms of disease of this organ, with which I have to do, are, its functional aberrations and chronic *hepatitis*.

The secretions of bile may be redundant or defective, or they may be acrid, or deficient in stimulative properties. These conditions are dependent, in all probability, on the quantity and quality of the blood presented for secretion, and that is affected by the digestion and chylification, and finally by the poisonous effluvia of a corrupted atmosphere.

In no disease may more be expected from change of climate and habits of life than in diseased functions of the liver, and in no region of the United States is there a summer climate more favorable than the transmontane division of Virginia. Inde-

pendent, then, of all mineral waters, much may be expected from visiting this region; but when the agency of the greatest variety of Mineral Springs may be obtained in connection with climate, our Southern friends have inducements to visit Virginia which are not presented by any other region of the Union.

Now, to say that any one of the Sulphur Springs is a specific, in all varieties of functional diseases of the liver, is to display great ignorance of the action of those agents. I would desire to impress upon the reader that it is not a purgative effect that is desirable in those cases. If it were, those waters that act most freely upon the bowels would be the most prompt to relieve the disease, and Saratoga water would claim preference over all other waters in the United States, in those conditions of the system; but such is not the case. We want an agent that will, in the first place, modify the original cause of the hepatic affection, and produce thereon an alterative effect; and this agent, I have already demonstrated, is *sulphuretted hydrogen, combined with the salts* usually held in solution in the Virginia Sulphur waters.

I agree with Dr. Goode, that there are cases of hepatic functional disease that may be, and are relieved by the Hot Springs alone; but I am also certain, that the surest plan is to visit first a Sulphur water, and to spend the latter portion of the season

at the Hot Springs, or, which in my view is better, to alternate these remedies through the season. Minute portions of blue mass should be used in connection with the Sulphur waters and warm bathing in hepatic diseases. It may be used with great safety, as the sulphuretted hydrogen prevents any permanent constitutional effect, and it will be found a most valuable auxiliary.

The waters of the White and Salt Sulphur will be found the most generally powerful in those *sequelæ* of Southern bilious diseases. It is impossible to visit the White Sulphur and not be daily witness of the improved appearance of those *sallow-faces* that present themselves to the observer.

Engorgement and *induration* of the liver, are, however, sometimes beyond its power, and in such cases the first impulse must be given by the Spout Bath at the Hot Springs. Then the White and Salt Sulphurs may be used and alternated with great advantage.

In some cases of *chronic hepatitis* the Red Sulphur is alone to be alternated with the Hot. In no case, until the liver is completely *emulged*, and all the symptoms of hepatic disease removed, are the Sweet or Red Sweet admissible.

I need scarcely say that *jaundice*, when the consequence of functional aberration of the liver, is under control of the White Sulphur.

CHAPTER VII.

BLUE SULPHUR SPRINGS.

The Blue Sulphur Spring is situated in the county of Greenbrier, in a beautiful valley, through which flows a streamlet bearing the unclassical name of *Muddy Creek*. It is twenty-two miles, in nearly a western direction, from the White Sulphur, on the road to Guyandotte, and thirty-two miles north by east from the Red Sulphur, with which it is now connected by a fine turnpike road.

The improvements consist of a brick hotel 180 feet long and 50 feet wide, 100 feet of which is three stories, with a portico 12 feet wide the whole length. Attached to this building is another, two stories high, 90 by 32 feet; and adjoining this latter is a two story building 150 by 17 feet, also having a two story piazza. The whole of these piazzas connect, making a continuous piazza of 420 feet. This range of buildings affords a dining-room 180 by 30 feet, two large receiving rooms, a ball and drawing-room, bar-room, counting-room, and a large number of very comfortable chambers, most of them

having fire-places. At the north end of the hotel are several brick cottages containing two and three rooms each, for families. At the southern end of the main range of buildings, and running at right angles, are several frame cabins with comfortable apartments for families, and running down the lawn, and interfering very much with its beauty, is also a long range of cabins. I think the establishment can comfortably accommodate 250 persons.

The Spring rises in the centre of the vale, and is covered by a well-designed but badly-executed Temple. The fountain, enclosed in marble slabs, is five feet in diameter, and one of the most beautiful objects imaginable. The sides are covered with a brilliant pink deposit, and the clear, cool, crystalline water seems to say, "Come and drink me." It flows off in a large stream, and is conveyed by pipes to Dr. Martin's baths. The temperature of this water is about 53 degrees.

Dr. Martin, a Frenchman, has erected a bathing establishment at this place. His arrangements are quite extensive and well contrived, and enable him to give plain or medicated baths of any temperature.

The following are given as the ingredients in the water, but as no quantities are annexed, the information is of little value.

Solid Ingredients.

Sulphate of lime,
Sulphate of magnesia,
Sulphate of soda,
Carbonate of lime,
Carbonate of magnesia,
Chloride of magnesium,
Chloride of sodium,
Chloride of calcium,
Hydro-sulphate of sodium and magnesia,
Oxide of iron, existing as proto-sulphate,
Iodine,
Sulphur,
Organic matters.

Gaseous Ingredients.

Sulphuretted hydrogen,
Carbonic acid,
Oxygen,
Nitrogen.

It appears, however, that the catalogue is almost identical with that of the White Sulphur, as indeed may be expected from the similarity of the geological strata.

Its specific gravity is probably greater than that

of the White, and being also a very cold water, the stomach is sometimes oppressed by large draughts of it. I have already, in my general remarks, intimated my opinion as to the quantity of a mineral water that should be drunk at a time; certainly it should not exceed half-a-pint, and one-third would be better in many cases. Half an hour, at least, should intervene between the draughts, and the interval, when practicable, should be employed taking suitable exercise, except in disease of the heart, in which repose is essential, and to which this water is certainly not adapted.

There are very few data to guide us in estimating the actual operation of this water in the diseases for which recourse is usually had to sulphur waters. It is very likely, judging from analogy, that it may be used with advantage in most of the diseases in which the White and Salt Sulphurs are indicated.

In my remarks on the Thermal Waters will be found many considerations that are also applicable to *Vapor Baths;* and while I assent to all that may be said in favor of the latter, under judicious prescription and management, yet I must say that all artificial preparations of steam require even more caution than the natural thermal waters, or the vapors arising from them, and that two things are actually necessary to their success—the capacity of the practitioner for accurate diagnosis, and discretion and judgment in their application. If empirically

prescribed, they may do much and irremediable mischief. It is to be presumed, however, that the gentleman who has had so many years experience in their application is fully competent to conduct his patients to a happy termination of their maladies.

I have heard, while on a visit to the Blue Sulphur, of numerous cases of cure in a vast class of ailments. How many were sent to the *Elysian fields*, I am not able to say, for dead men tell no tales. That I have no fears of this last result in my own case, may be inferred from my intention of placing myself under charge of the learned gentleman next summer, if I fail to soften the rigidity of my muscles at the Thermal Springs. If the Doctor cures me, I shall buy a gold pen to indite his praises.

A special virtue is claimed for this water in the relief of chlorotic females. There may be some ground for this, as from the qualitative analysis it appears to contain *iron*, but I have no personal knowledge of the fact, and therefore give the statement as founded on report.

It would be doing great injustice to omit favorable mention of the comforts and style of living at this place. It is admirably kept by Mr. George W. Buster, one of the stockholders of the company. The female department seems to deserve a special notice, for all its duties are performed with great neatness and kindness by the estimable lady who for several years has had its superintendence.

I can say without hesitation, that the attention and comforts and the agreeable society to be met with here deserve the notice of spring-goers, even were there not to be found here one of the most beautiful fountains in the world.

> This fountain well a rivulet might name,
> Cooler and purer than a Thracian stream;
> Useful to ease an aching head it flows,
> Or when with burning pain the stomach glows.
>
> [*Francis's Horace.*

Dr. John A. Hunter has for several years been resident physician at the Blue Sulphur, and as a gentleman and intelligent medical practitioner, is entitled to the highest confidence. In him the visiter will find a safe adviser, in any case that may require the aid of a physician.

CHAPTER VIII.

RED SULPHUR SPRINGS.

The Red Sulphur Springs are situated in Monroe county, 42 miles from the White Sulphur, 39 miles from the Sweet Springs, 32 miles from the Blue Sulphur, and 17 miles from the Salt Sulphur.

The improvements consist of the hotel, 180 feet by 42, two stories, containing dining-room, drawing-rooms, bar and store-rooms, &c., with a double piazza, the whole length; Alabama Row, 300 feet long, with a piazza the whole length, and a neat two story building at the end; Philadelphia Row, 200 feet long, with a piazza; Bachelor's Row, 104 feet long; Carolina House, 112 feet long and two stories high. Between the two last ranges is a house for the reception of visiters on their arrival. There is a continuous piazza from the extreme end of Philadelphia Row to that of Carolina House, 471 feet in length.

Above Bachelor's Row, on a terrace, is Society Hall, 80 by 42 feet, two stories and a basement, having a portico, supported by nine Ionic columns,

25 feet high, and presenting a very imposing front from the valley. Besides these ranges, there are numerous cottages and offices, and at the entrance a mercantile establishment—but the structure most deserving of notice is the pavilion over the Springs.

This beautiful edifice was erected in 1840, after a design of Mr. Strickland of Philadelphia. It is a dome 42 feet in diameter, supported by 12 Ionic columns. The height from the base to the entablature is about 30 feet. The Springs rise 10 feet beneath the natural level of the valley, and their depth being over 4 feet, you descend 5½ feet by circular steps. The whole height from the level of the water to the top of the dome is about 50 feet. The Springs rise horizontally in two marble reservoirs. They derive their name from a rich lake-color deposit, which is sometimes seen in large quantity on the sides of the fountains. Their waters are conducted into a wooden reservoir in the centre, and thence by pipes to the bathing-house.

I now lay before the reader an elaborate analysis, by Aug. A. Hayes, Esq., of Roxbury, Massachusetts. It is impossible to read this paper without perceiving that it is the result of a zealous and patient investigation by a man intimately conversant with the details of his profession. In some particulars, his results are different from those obtained by Professor Rogers; in others they correspond very remarkably. The organic substance disco-

vered in the water so abundantly, supposed by Mr. Rogers to be analogous with *glairine*, but called by Mr. Hayes *sulphur compound*, is believed by both to be probably an important cause of the peculiar agency of the water. There can be little doubt, I think, that this property of the water, its extraordinary freedom from saline and earthy impurities, the well-adjusted proportions of its several gases, and its low temperature, are the immediate causes of its remarkable virtues.

"*Roxbury Laboratory*, 17*th Jan.* 1842.

"Dr. William Burke.

"*Dear Sir*,

"Through my friends, J. S. Cook, Esq., and Dr. H. J. Bowditch, I received specimens of the water, red deposit and mud, from the Red Sulphur Springs in Virginia, for chemical analysis. It was with great interest that I engaged in the experiments, as very little was known of the chemical composition of this water, although its medicinal effects had rendered the watering-place a celebrated one. I have sent Mr. Cook an account of the results obtained. Since my observations were communicated, Mr. Cook has allowed me to peruse a copy of a letter from Professor Rogers, dated in May 1835, in which is contained a notice of a peculiar organic matter contained in the water. He

has, therefore, anticipated my discovery by some years. I do not, however, consider this substance identical with baragene or glairine of the Warm Springs of Italy and France. It is, so far as I know, new and peculiar, and seems to be an azotised base *combined* with sulphur, and so combined as to neutralize the distinctive characters of sulphur. The hydro-sulphuric acid gas (sulphurreted hydrogen) found in the water, is produced through the agency of this body; either by its action on the sulphates present, or more probably the substance itself disengages hydro-sulphuric acid, before reaching the surface of the earth, abstracting oxygen from air already dissolved in the water. It is in favor of this view that *less* oxygen is present in this than in common water, the mixture of oxygen and nitrogen in river water often giving 38 per 100 of oxygen. I have minutely examined the saline contents of the water, and the results sent you are those which have been checked by independent experiments. The almost entire absence of chlorine or muriatic acid is a singular fact. I examined every bottle for chlorine, and although in most of them traces were found, they were not constantly observed, and quite as likely to be derived from accidental sources as from the water. The largest quantity found would have carried my decimals to four or five, and is wholly unimportant. The water gives, by tests, indications like those observed when chlorine is present, but the appearance is fallacious.

"I have arranged the acids and basis according to the views of Murray and Berzelius, and experiments shew that in this case these views are correct. The alkaline action of the water is due to the solution of the carbonate of magnesia in carbonic acid, (Murray's fluid magnesia,) and the peculiar substance distinctive of this water *seems* to be dissolved in this solution.

"You will not fail to observe that the chemical history of the 'sulphur compound' is incomplete. My principal object in addressing you at this time is to request you to furnish me with more of the 'red deposit,' as a source of it. Professor Rogers supposed the sulphur was deposited and mixed with it. I believe no trace of uncombined sulphur can be found in it, in its fresh state; and when I fermented it, hydro-sulphuric acid was the form it appeared in. I deem this a very important distinction, in a medical point of view, and incline to the opinion, that *all the sulphur in this compound is in a state fitted to be absorbed in the animal system*, as no other known solution or powder of sulphur is, excepting perhaps hydro-sulphuric acid. The opinion, that substances of delicately balanced affinities in their changes give rise to changes in other bodies, is gaining ground among the most learned physiologists and chemists, and such a view of the effects of some of the constituents of mineral waters is perhaps a correct one. I exclude of course all those

waters wherein one stable constituent of great activity gives character to the water, and include those which differ but little in saline constitution from well waters generally, but contain besides a substance in a state of passing from one form of matter to a new form and constitution of matter. These views would be more acceptable, if experiments had demonstrated their truth: for this we must wait.

"Chemists are indebted to M. Liebig, for a clear exposition of the phenomena attending fermentation and decay. Many had doubtless entertained similar opinions; but for an explanation of some of the most recondite changes, resulting from chemical action, he was the first to propose the *transfer of action from one changing body* to another, which may be alone a stable substance.

"The chemical history of the sulphur compound, shews that, like yeast, it has the power of inducing changes among the constituents of another body, like those it is itself undergoing. Healthy surfaces and tissues may resist its power, and the water in which it is dissolved may not produce any effect of disturbance on a healthy stomach. Waters containing a minute portion of salt called hydriodate of potash, may be used as an ordinary beverage, without any marked action; but diseased organs and impaired vital action allow of marked effects being produced by such waters. Experiments, made on larger quantities of the deposit of the Spring, de-

monstrate the existence of phosphates in small quantity. The origin of this singular substance, which for past ages has been poured out from the strata, is a question of great interest. The quantity would indicate that the source of supply can only be the organic matter of rocks constituting an extensive formation. Its composition leads me to infer that we are drawing curative effects, as we do articles of beauty and luxury, from an older than the present state of creation.

"The 'red deposit' I inferred from chemical observation to be exhibiting signs of vital action. Dr. Rogers had earlier made the observation from inspection. In relation to some compounds referred to above, baragene and glairine, botanists have arranged them as organized beings, in the species Tremulosa, and suppose the seeds to be brought by the water to a suitable place for germination: so much for the evidence obtained by the aid of lenses and eyes. On the other hand, it has been demonstrated by chemists, that the substance present in the water is *not* the substance which the botanists have named: lenses and eyes cannot see it; it unites to other bodies and plays a certain part, can be separated, and retains its former properties. The circumstances under which substances of this kind are deposited seem to have been overlooked or misunderstood. In all cases the waters have been slightly changed in constitution, after leaving that point in their courses, below which deposition

never takes place. Thus a water highly charged with carbonic acid, losing a part of this in contact with the atmosphere, will deposit so much of a body held in solution in carbonic acid as was dissolved by that part which has passed off. It is always a very small part of the whole quantity which is deposited; the bulk goes forward with the water. Rocky strata change waters in this way, and when several kinds of stone are wetted by the same water, some produce this change, others do not. In the matter thus deposited, the seeds of organic matter vegetate, often with surprising rapidity. I have seen the silicious shells of animalculæ, after the death of these active little beings, fall to the bottom of a glass vessel, closely stoppered; and within a week, a close, deep-green covering of moss has completely invested and covered the remains.

"In the Red Sulphur Spring, the red lichen seems to have found in the sulphur compound a congenial soil, for its ramifications extend throughout it. The black mud seems to have changed the sulphur compound, combining through it ferreous salts with the sulphur, and giving oxygen to the other constituents of the compound. I think you will observe that the marble slabs, pieces of wood, metal, &c., act differently in producing or receiving deposition—sunlight and shade often cause different effects.

"Respectfully,

"AUG. A. HAYES."

RED SULPHUR SPRING WATER, VIRGINIA.

Analysis.

This water is perfectly colorless and transparent; when agitated it has an agreeable, sparkling appearance. Its odor is that of hydro-sulphuric acid mixed with that from earth or clay, the latter being retained after the hydro-sulphuric acid is dissipated or destroyed. In taste it is hepatic and slightly bitter. By ebullition it does not immediately become turbid, gases escape, and when reduced in volume by evaporation, deposition takes place.

The specific gravity of this water, compared with pure water at the same temperature, and pressure equal, is 100029. Subjected to the influence of chemical re-agents, it presents the following characters:

With a solution of chromate of potash, the yellow color becomes greenish yellow.

" nitrate of mercury, a grayish brown precipitate is formed.

" acetate of lead, the first drops give a brown colored precipitate; an additional quantity, of a yellowish white precipitate.

" bisulphate of copper, at first brown, succeeded by a bulky greenish gray precipitate.

With a solution of sulphate of silver, a brown succeeded by a yellowish white and flocculent precipitate.

" muriate of baryta, a white precipitate insoluble in acids.

" oxalate of ammonia, a white precipitate.

" nitrate of silver and ammonia, white precipitate, which becomes brown and purple in sunlight.

" nitrate of copper and ammonia, a pale bluish-green precipitate is formed; after the first few drops of the re-agent have separated, a brown precipitate.

" tincture of iodine, added to a large bulk of the water, containing starch dissolved in it, instantly gives a blue color to the starch.

Indications above described afford evidence of hydro-sulphuric acid in the water, while the iodine solution shews that it exists in a relatively small proportion. A bottle of the water was mixed, at the moment of taking it from the spring, with a small quantity of oxide of bismuth, and closely sealed. After the agitation due to carriage, and rest for several weeks, it was found that the particles of oxide of bismuth were rendered brown superficially, and no traces of hydro-sulphuric acid remained in the water. The oxide contained carbonic acid, and less than one-third of a grain of the oxide had ab-

sorbed and combined with all the hydro-sulphuric acid, contained in about fourteen thousand grains of the recently drawn water. By careful experiments, in which the hydro-sulphuric acid was measured by its action on iodine, and the latter weighed in silver compound, the bulk of the hydro-sulphuric acid was ascertained.

Fifty thousand grains (about seven pints) of the water, from which the hydro-sulphuric acid had been removed, afforded by the usual processes 2698 grain measures of gases, or one volume of gases from 18½ volumes of water.

1000 parts of the mixed gases are made up of

Carbonic acid gas,	-	4.19
Nitrogen gas, -	-	4.77
Oxygen gas, -	-	1.04
		—— 1.000

The two latter gases form the bulk of our atmosphere, in the proportion of 79 nitrogen to 21 oxygen—474 of nitrogen requires 126 oxygen, while the analysis gives 1.04, shewing that oxygen is abstracted by the constituents of the water. All the well-corked bottles had rarefied atmosphere over the water, and when they were pierced, even at 32° F., air would enter.

A well-sealed bottle, containing the hydro-sulphuric acid gas in the water, afforded, for 50,000 parts of water, 3,088 of mixed gases, or one volume of gases from less than 17 volumes of water, consisting of—

Carbonic acid gas,	-	1245
Nitrogen gas, -	-	1497
Oxygen gas, -	-	260
Hydro-sulphuric acid gas,	-	86
		—— 3008

Gaseous contents of a gallon, or 231 cubic inches of the Red Sulphur water:

Carbonic acid, -	-	5.750
Nitrogen, -	-	6.916
Oxygen, -	-	1.201
Hydro-sulphuric acid,	-	0.397
		—— 14.264

In this analysis the proportion of oxygen gas to the nitrogen is still smaller—a result which accords with other observations made at the same time. The hydro-sulphuric acid gas is the most active of the gases found, while the carbonic acid gas acts the part of an acid in rendering earthy salts soluble in the water.

50,000 grains (about seven pints) of this water afford, by slow evaporation in the air at 200° F., a light yellowish brown matter, which, after it had been carefully dried, weighed $20\frac{56}{100}$ grains. At the temperature of 240° F., this residue becomes changed, and suffers a loss of weight, being reduced to 17.55 grs.

This residue contains the saline part of the water, and is composed of—

Silicious earthy matter, containing traces of oxide of iron and alumina, probably suspended merely, - - -	0.70
Sulphate of soda in a dry state, - which forms with the water 802 grs. (Glauber's salts.)	3.55
Sulphate of lime, - - -	0.47
Carbonate of lime, - - - dissolved in carbonic acid.	4.50
Carbonate of magnesia, - - dissolved in carbonic acid, and forming the "Fluid magnesia."	4.13
A peculiar substance, containing sulphur combined with organic matter, -	7.20
	20.55

There are traces of chlorine, or muriatic acid, in some specimens, but at most only 0.13 of chloride of silver could be separated from 10,000 grs. of water. This substance is rarely absent from natural waters which have penetrated the earth.

The peculiar sulphur compound, which forms a part of the saline contents of this water, has never been described, if it has ever before been met with. While in the natural state, and out of contact with atmospheric air, it is dissolved in the water, and forms a permanent solution. Air, acids, and other agents, separate it from the water, in the form of a jelly, and alkaline carbonates, alkalies, water, and

other agents re-dissolve it. It has no acid action on test fluids, but bears that character with bases, and forms compounds analogous to salts. In its decomposition ammonia is formed, and hydro-sulphuric acid is liberated; or if heat be employed in the experiment, sulphur is separated. It combines with the oxide of silver, and forms a salt of a reddish purple color, in the form of a flocculent precipitate, which dissolves in pure water; with the oxide of lead, a yellowish white powder, and with the oxide of copper, a pale blue salt in fine powder. In these compounds it remains unaltered, and may be separated from them and transferred to other bases.

Mixed with a small quantity of water, and exposed to the temperature of 80° F., it decomposes, and emits a most offensive odor of putrefying matter, with hydro-sulphuric acid gas. It is to this property that the hydro-sulphuric acid in the water is due, and to the oxidation of a part of this compound most of the sulphuric acid found in the water may be referred.

I have endeavored to ascertain how its elements are arranged, but so small a quantity has been separated, that I could not ensure the purity of any salt formed with it. $1\frac{44}{100}$ grs. gave with oxide of copper $3\frac{44}{100}$ grs. of a dry, bluish-green compound.

With specimens of water, I received a small quantity of "red deposit," which invests the surfaces of the marble slabs forming the basin of the

Spring. It had become changed, although the cork was tightly sealed. When opened for examination, a soft, clay-colored mass, composed of films having a greasy appearance, mixed with some filamentous parts, was found. The odor it exhaled was insupportable; it blackened metals, and when agitated with water, rendered it viscid. With a solution of carbonate of soda it formed a frothy solution, which while cold had the appearance of a solution of soap, and when heated disengaged some ammoniacal vapors, and formed a solution of all excepting some earthy and filamentous parts.

This substance contains the same compound of sulphur and organic matter as that found dissolved in the water of the Spring. I separated from the water the peculiar matter it contains in the form of films, and compared these with those obtained from a soda solution of the altered "red deposit," by the aid of re-agents, and they proved identical. From examination of this altered matter, I have formed the conclusion, that the red color of the matter which covers the slabs is that of moss or lichen, which finds its habitation in the viscid covering produced by the deposition of the sulphur compound.

My early attempts to illustrate this point failed. The substance separated from the water by uniting it to oxide of copper, and afterwards destroying the union by hydro-sulphuric acid, would become, after a few days, covered with vegetation of mosses, un-

like those described as occurring at the Spring. I was led to the conclusion that the spores or seeds of the peculiar "red moss" did not exist in the atmosphere of this place, and must be found in the products of warmer climates. After several trials, I succeeded, by treating rice with a hot dilute solution of carbonate of soda, in obtaining a red-colored moss vegetation, which could be transferred to the decomposing compound on which it flourished. In its union with oxide of copper, no tendency to the production of vegetation was observed, under the most favorable circumstances; but when, after separation, decomposition and decay had progressed, vegetation appeared. I need not ask, if a substance possessing vitality can be combined with oxide of copper and afterwards eliminated by hydro-sulph. acid, and retain its vital powers.

A small specimen of the mud and slime, which appears where the water from the Spring flows, was received. It was a black, tenacious mud, exhaling an odor of hydro-sulphuric acid, mixed with that of earth. The color is due to the sulphuret of iron, formed by the action of the hydro-sulphuric acid on the ferruginous matters contained in the soil, which is a product of a further decomposition of the sulphur compound contained in the water. It forms brown-colored solutions and imperfect salts; its sulphur element is retained; in other respects, it resembles the brown extracts from soils, or the humus and apocrenic acids of Berzelius.

Having studied the chemical characters of the sulphur compound imperfectly, I give only those reactions in the following description, which will serve to shew its want of identity with any of the various substances which have been found in thermal waters and in some European hepatic waters.

Chemical Character of the Sulphur Compound.

I. When separated from a solution by evaporation, or by drying from a gelatinous state, it forms greasy films, which do not darken solutions of lead or copper.

II. In pure water they slowly dissolve, and the solution gives salts of the compound, with the bases.

III. Solution of carbonate of soda dissolves them, and a fluid results which froths by agitation.

IV. In caustic solutions of alkalies, the films dissolve and the solutions are slightly yellow-colored. These solutions have the peculiar odor of soap-leys. They do not blacken metals nor color metallic solutions. Acids decompose the solutions, and the sulphur compound separates in the form of a bulky jelly generally; some oxyacids giving flocks.

V. Nitric acid dissolves the films, and the salts of baryta and lead do not indicate the presence of sulphuric acid. On heating the acid solution, a yellow matter separates, which resembles that produced by

acting on azotized bodies by this agent; sulphuric acid is thus produced, and the yellow precipitate requires a large proportion of nitric acid for its complete oxidation. The result of this action is an acid which gives a deep yellow color, with ammonia in excess.

VI. Chlorine in muriatic acid separates from the sulphur compound some white flakes, which are finally oxidized, and a colorless solution formed, in which sulphuric acid exists.

VII. Alcohol did not dissolve the compound.

Chemical experiments do not shew the medicinal properties of the substances operated upon. But when a substance, the result of delicately balanced affinities, gives in its decomposition an agent of powerful action on the animal system, we may conclude that it is an active ingredient, if found in a water possessed of high curative powers.

I am disposed, therefore, to consider the *sulphur compound* in this water as the principal medicinal agent contained in it, although its action in combination with the other constituents may be necessary to produce the effects for which this water is so justly celebrated.

The following results give in one view the composition of this water.

Gaseous contents of a gallon or 231 cubic inches of the Red Sulphur Spring water:

Carbonic acid, - -	5.750	
Nitrogen, - - -	6.916	
Oxygen, - - -	1.201	
Hydro-sulphuric acid, -	0.397	
		14.264

50,000 grains (nearly seven pints) of this water contain, dissolved as gases, (grain measure,)

Carbonic acid, - -	1245	
Nitrogen, - - -	1497	
Oxygen, - - -	260	
Hydro-sulphuric acid, -	86	
		3088

grain measures of gases.

50,000 grains of this water afford, of

Silicious and earthy matter,	0.70	
Sulphate of soda, -	3.55	
Sulphate of lime, -	0.47	
Carbonate of lime, -	4.50	
Carbonate of magnesia, -	4.13	
Sulphur compound, -	7.20	
Carbonic acid, - -	2.71	
		23.26

Note.—The carbonic acid which is given with the saline matter, being all which the water contains, includes that which is given off as gas by ebullition.

AUGUSTUS A. HAYES.

Roxbury Laboratory, Jan. 14, 1842.

Here we have not only results, but the whole process by which they were obtained. There is no mystification, but at every step of the experiment the reader is instructed and interested. We would especially invite his attention to the curious substance in which Mr. Hayes supposes the virtue of the water mainly to consist.

On this head he makes the following important remark: "I believe no trace of uncombined sulphur can be found in it in its fresh state, and when I fermented it, hydro-sulphuric acid was the form it appeared in. I deem this a very important distinction, in a medical point of view, and incline to the opinion, that all the sulphur in this compound is in a state fitted to be absorbed into the animal system, as no other known solution or powder of sulphur is, excepting perhaps hydro-sulphuric acid."

The introduction of this bland substance in a fluid state into the system *must* exert a great influence on the circulation, and consequently on the mucous surfaces that are in a morbid condition; and when we consider that the greater portion of the fluids taken into the stomach is *directly* conveyed into the circulation by the absorbents, we can at once perceive that the great hygeinic power of this water is dependent on the characteristics enumerated, all of which combined act as a singular alterative in equalizing an excited circulation, in cor-

recting the highly acrid and vitiated secretions of an irritated mucous membrane, by modifying the fluid that supplies the matter for that secretion; and that by sending to the heart and lungs also a diluted instead of a highly concentrated supply of blood, it calms those organs, by producing in the latter a condition favorable to the proper performance of their functions of oxygenation, and by soothing the irritation of the former, causing it to send forth its stream with a milder impetus, and, moreover, by diffusing more equally the capillary circulation, and in return obtaining not only a more moderate, but a more healthy supply.

Suppose that an irritated, feverish condition of the mucous membrane, or the bronchi, or the alimentary canal exist when this water is taken into the stomach; it is refrigerant, bland, pure, yet abounding in subtle and invisible power; what is its probable mode of action? Why, reasoning from analogy, we must conclude that its first impression is on the nervous expansion with which it comes in contact; this sends the pleasurable sensation to the brain; this urges into activity the absorbents; these convey the tranquilizing influence to the circulation; and this influence is again returned to the modification of the irritated surfaces. The external capillary circulation is restored to its rightful balance; the skin and the kidneys perform their appropriate functions; in a word, the normal condition is re-

stored, and all is smooth and calm as the unruffled ocean.

But if, on the contrary, a hard, harsh water, loaded with saline ingredients, comes in contact with a surface in the condition supposed, what may reasonably be expected? Why, evidently that the nerves will be distressed, the circulation still further depraved, the heart excited to unnatural action, the irritated surface still further engorged, the arterial action increased, respiration hurried, and all the functions of the external and internal organs abnormally performed.

> "Through pervious earth the filter'd surges pass,
> Rise in sweet springs and lave the freshened grass;
> While their smooth seeds an easy passage find,
> Lodged in the pores, the rough are left behind."

The process of filtration described by *Lucratius* gives us a good idea of that effected by the organs of secretion of the human system.

It will readily be seen, then, in chronic affections of the organs of respiration and of the abnormal viscera, if these affections amount to *irritation or subacute inflammation*, that the Red Sulphur alone of the sulphur waters is admissible.

The diseases in which the Red Sulphur has been most available are: Chronic laryngitis, chronic bronchitis, hæmoptysis, *chronic* phthisis, functional disease of the heart, hypertrophy of the heart, mu-

cous diarrhœa, irritability of the nerves, producing sleeplessness, irritation of the kidneys and bladder, lithic acid gravel, chronic hepatitis, amenorrhœa, dysmenorrhœa, menorrhagia, chronic splenitis, chronic gastritis, hæmorrhoids, scrofula, chronic exanthemata of the skin.

This water being manifestly narcotic, is contra-indicated in plethora, apoplexy, epilepsy, chorea, vertigo, and all diseases indicating too great a tendency of blood to the brain. In the acute stages of disease, it is decidedly injurious. In the course of my practice in the neighborhood, it was used in some cases as ordinary drinking water, in the first stages of pleurisy and pneumonia, and in bilious fever, but with invariable aggravation of the symptoms. After the inflammatory stage was subdued, and in incipient convalescence, I found it exceedingly valuable in invigorating the constitution.

CHAPTER IX.

PHTHISIS.

Acute, or "galloping consumption," as it is frequently called, usually runs its course in from two to nine months, and is wholly unmanageable; and when it fastens on its unhappy victim, there is no alternative but to submit to the decree of that great Being in whose hands are the issues of life and death. It is usually the effect of hereditary taint, roused into morbid action by imperfect nutrition, bad air, exposure, disappointed affection, reverse of fortune, fevers, uterine derangements, and various other causes. It is one before which the system falls prostrate, and in which we can do nothing but smooth, as we may by kind and delicate attentions, the passage of our friend to a brighter and better existence. But the *chronic* form of this disease is happily more under the control of remedies.

As in all diseases there are different grades of intensity, so in tubercular consumption there are grades—1st. Of predisposition; 2d. of tubercular infiltration or deposition; 3d. of development; 4th.

of ulceration; 5th. of marasmus; and lastly, there are grades of the power of resistance in different constitutions. This being the case, it is manifest the chances for recovery, perfect or partial, or of a fatal result, are in proportion to such grades. All modern writers agree that cases of recovery are frequent from slight attacks in the latter or suppurative stage.

The great Laënnec makes the following remarks: "But while I admit the incurability of consumption in the early stages, I am convinced, from a great number of facts, that in some rare cases the disease is curable in the latter stages, that is, *after* the softening of the tubercles and the formation of an ulcerous excavation." Again: "I have at present under my care patients affected with chronic catarrh, and who afford distinctly the sign of pectoriloquism, although they have in no other respect any symptom of consumption. I have met with several other cases wherein this phenomenon was observable along with a slight habitual cough, very little expectoration, and scarcely any marked alteration in the general health.

"In a lady, formerly a patient of Mr. Bayle, eight years since, and whose case was decidedly consumption, (as appears from Mr. Bayle's notes in her possession,) the sign of pectoriloquism is most distinct. This lady recovered beyond all expectation; she is now stout, and the only symptom that she has,

at all referable to the lungs, is a slight cough. I have no doubt the cartilaginous excavations exist in this person's lungs."

M. Laënnec then gives several cases illustrative of what he has advanced, from which it appears fully that recovery is not only not impossible, but not unfrequent. Again: "I have often observed the above state of things without knowing to what to attribute it, and without attaching much importance to the appearance; *but after I was convinced of the possibility of cure in the case of ulcerations of the lungs*, I began to fancy that nature might have more ways than one of accomplishing this end, and that, in certain cases, the excavations, after the discharge of their contents by expectoration or absorption, might cicatrize in the same manner as solutions of continuity in other organs, without the previous formation of the demi-cartilaginous membrane.

"In consequence of this idea, I examined these productions more closely, and came to the conclusion, that in every case they might be considered as cicatrices, and that in many cases they could hardly be conceived to be anything else." Again: "In tracing the bronchial tubes near these masses, I have observed that such as held a direction towards them were commonly dilated. In some cases I have been able to trace them, as also blood-vessels, into the fibro-cartilaginous mass, with which, although obliterated, they formed but one substance.

This fact seems to me to leave no doubt of the nature of these productions, *and of the possibility of cicatrization in ulcers of the lungs.*"

These observations are followed by two remarkable cases, which my limits forbid me from quoting, and the author continues his remarks as follows:

"The foregoing observations prove, I think, that tubercles in the lungs are not in every case a necessary and inevitable cause of death; and that a cure may take place in two different ways, after the formation of an ulcerous excavation: first, by the cavity becoming invested by a new membrane; and secondly, by the obliteration of the excavation by means of a cicatrix, more or less complete, consisting of cellular, fibrous, or cartilaginous substance." Again: "When we consider that the formation of tubercles in the lungs seems to be the consequence of a general diathesis; that these are frequently formed contemporaneously in the intestines, where they ultimately occasion ulceration and colliquative diarrhœa; and that in some cases also, they exist in the lymphatic glands, the prostate, the muscles, bones, &c., we must be led to believe that the most perfect cure that can take place in consumption is merely temporary.

"Admitting, however, the justness of this conclusion, *in those extreme cases of tubercular diathesis, (which after all are but rare, when compared with the vast number of consumptions,)* we are still entitled to hope for

the cure of many cases of phthisis, or, at least, for such a suspension of their symptoms as may be deemed almost equal to a cure, since the individuals may enjoy such a state of health as may enable them to fulfil all the duties of civil life for years, or until such time as a fresh development of tubercles, at present immature, produces a fresh and final seizure."

Dr. Williams, in his dissertation on pulmonary consumption, says: "Tuberculous consumption is in its ordinary career a chronic disease; but the cases that particularly deserve this title are those in which the disease lasts for years. Bayle and Laënnec record instances in which patients appear to have had the disease thirty or forty years. But it is not to be supposed that in chronic cases the disease is always progressive. It owes its long duration to its limited extent; and although the lungs are never free from some of the lesions described as characteristic of phthisis, yet the continuance of the disease is chiefly marked by many successive attacks and recoveries, dependent on particular developments of new tubercles, and their successive changes and elimination. As the rapid form of the disease occurs chiefly in young subjects, so this in most instances is met with at or after middle age; but it is by no means confined to any period of life.

"It is this chronic or limited form of tubercular disease that affords the best chance for the remedial

powers of nature and art; and there can be but little doubt that a considerable number of cases are cured."

On this paragraph the American editor, Dr. W. W. Gerhard, adds the following note:

"There is no doubt many such cases recover; cicatrices or calcareous tubercles remain often in healthy persons."

And, again, Dr. G. in his work on "Diseases of the Chest," makes the following remarks: "Phthisis is therefore strictly a curable disease, notwithstanding that in the majority of cases it terminates fatally at an earlier or later period. This arises not so much from the effects of the first crop of tubercles as from the successive deposits of new ones in different parts of the lung, and indeed of the whole body, or rather from the accompanying fever and irritation. Hence a patient rarely dies of one attack of phthisis, except it be of a very acute form."

The question may now be fairly raised, allowing the curability of consumption under the most favorable circumstances, have cases thus marked and identified by an unmistakeable diagnosis been relieved at the Red Sulphur? I answer, without hesitation, that they have.

Since the advances in diagnosis by means of *percussion* and *auscultation*, I have examined numerous patients for signs of tubercular deposition and lesion, whom I met at the Red Sulphur, and several

whom I sent thither; and although I do not claim any great skill in these methods of exploring the internal organs, I satisfied myself that there was a tuberculous condition, and I was nevertheless gratified by seeing many such cases receive prompt and decided relief. I trust, however, it will not be inferred that I am disposed to hold forth delusive hopes to any poor invalid who may place reliance on my opinion. I seek not to deceive a human being in this matter. I candidly acknowledge that there are annually many persons presenting themselves at the Red Sulphur, that are not and cannot be benefitted, and whom, if I could have seen them before they left the comforts of home, and the kind attentions of friends, I would have advised against the journey;—but again, I *do say*, that if there *be* hope left, it is in the water of the Red Sulphur.

I agree altogether with the opinion of Laënnec, that it is in the suppurative stage alone that a cure may be looked for. When the tubercle is ripe, and in a condition to find its way into the bronchus, then is the period for the action of the Red Sulphur. It allays the general febrile condition of the system, without impairing the quality of the nutritive fluid, distributes the latter more equally amongst the different tissues and organs, and not only places the lungs in the best condition to shake off the existing disease, but also prevents the deposition of other tubercles.

If, while the tuberculous ulcer is discharging, the condition of the blood can be improved, so as no longer to form a degraded deposit, and the general powers of the system invigorated; if, moreover, we can find a remedy that will reduce the hurried action of the heart and arteries, without having recourse to depletion; that will calm the system, whilst it imparts tone and energy to it; that will restore to the kidneys their true share in the excretions, and prevent extenuation of the body by colliquative perspiration; then we may hope that we have found an agent that will enable the vital powers to resist and shake off the existing disease, and in a great degree remove the tendency to degeneration. *Such an agent, in my opinion, is the Red Sulphur.*

The great principle upon which the Red Sulphur acts is the sedative principle. From whatever elements this principle has been imparted to it, it is manifest that it is the great lever by which it operates.

The letter which I subjoin was written by Dr. Scott of Lexington, Kentucky. The reader will perceive that it bears the impress of truth, and was written for no other object than to do justice to the water, and to benefit the community.

"RED SULPHUR SPRINGS, VA.,
Sept. 1841.

"DEAR SIR,

"I arrived at the Red Sulphur on the 23d or 24th of last month, with but little *faith* in the efficacy of the *waters*, yet was determined to give them a fair trial, divesting myself as much as possible of preconceived opinions and impressions derived from many reports for and against their medicinal qualities. First day, drank nine half pint tumblers of water in the course of the day, at different periods, and as it is usually directed to be drunk. Second day, twelve, and third day sixteen tumblers full, which last number I continued to take five more successive days. First and second days, they (the waters) operated profusely as a diuretic; third day, very delightfully also on my skin as a diaphoretic, preserving my bowels in a healthy state; on the fifth day, had copious bilious evacuations, as much as I ever experienced from an active *portion of calomel.*

"At the commencement, and for three months previous, my pulse had been not less than 100 and 110 distinct pulsations in every *minute*, that is 100 beats in the morning, and 110 in the afternoon and evening, attended with occasional cough and hæmorrhage from the lungs. Using the Red Sulphur waters as above stated, my pulse was gradually

lessened in strength and *quickness* on the third day to 70 beats in the morning, and 80 and 84 in the evening, at which it (the pulse) continued regularly, without variation of a single pulsation, during the five more days I remained with you. I used the waters eight successive days only, and I do assure you, sir, that my health has not been at any time in the last two years so perfectly good and free from all uncomfortable feelings.

"My statements cannot be of any advantage amongst strangers to me, but I humbly hope they will be relied on by my friends and acquaintances in the *West* and *Northwest*, where I have been known extensively as a *practitioner of medicine* for near forty years.

"I am, dear sir,

"Very respectfully yours,

"JOSEPH SCOTT."

The following is the case of Dr. Henry Huntt, who wrote a pamphlet on the Red Sulphur waters.*

In March 1837, I was attacked with a slight hæmorrhage from the lungs, attended with other symptoms, indicating a diseased state of those important organs. For a time I neglected to resort to medical treatment, and continued to pursue my pro-

* A Visit to the Red Sulphur Springs of Virginia during the summer of 1837, with Observations on the Waters. By Henry Huntt, M. D.

fessional labors until warned by my failing strength that the disease was gaining ground. By application of the usual remedies, the violence of the symptoms was soon subdued, and in a short time I felt myself sufficiently restored to resume my usual labors; but with the exercise my wonted strength did not return; the cough continued, with occasional pain in the chest, and an uneasy sensation of fulness about the liver, stomach and spleen. These symptoms, after a time, were attended with increased cough, copious morbid expectoration, hectic chills, fever, and night sweats; my weight was reduced from 135 to 115 pounds.

Such was my situation when, about the middle of July, I left home for the Red Sulphur Spring in Virginia. On the third evening I arrived at the Warm Spring, a distance of 230 miles from Washington, and immediately after getting out of the stage, I plunged into the delightful bath of that place—an imprudence against which I would earnestly caution all invalids who arrive after a long journey with the system exhausted by fatigue. The consequences in my own case warrant me in pronouncing it to be fraught with great danger. While in the bath, its effects were very grateful and pleasant; but shortly after leaving it, I became chilly, and this feeling was followed by a hot skin, intense headach, and pain in the chest.

After breakfast the next morning, though still

very unwell, I continued my journey, and arrived before night at the White Sulphur Spring, where I remained two days, drinking freely of the water, which seemed only to increase the cough and pain in the chest, and produce an aggravation of all the other symptoms. Leaving this place on the third morning, I passed Union at noon, dined at the Salt Sulphur, and before sunset arrived at this celebrated fountain, for the benefit of whose waters I had left home.

On the evening of my arrival at the Spring I commenced the use of the water. The next day, during a violent paroxysm of coughing, a coagulum of blood was discharged from the lungs, which was followed by considerable hæmorrhage. After this, the cough became less troublesome, but the evening exacerbations of fever and the night sweats continued, my pulse beating 115 strokes to the minute. I confined myself to a low diet, and drank six glasses of the water during the day, namely, two before breakfast, one at 11, A. M., one at 5, P. M., and two at bedtime. The water acted freely on the bowels, and particularly on the secretions of the liver. In ten days, the abdominal viscera were entirely relieved, the pulse reduced to 78, and the fever and night sweats had ceased. The quantity of water was now increased to twelve glasses during the day, taken at the same hours, but in double doses. It acted very gently on the bowels and skin,

but most powerfully as a diuretic. Thus it appears that in small quantities the water acted freely on the bowels, and but little on the kidneys; while in larger quantities it acted freely on the latter, and scarcely affected the former. In fact, I could direct its action to the one or the other at pleasure, by increasing or diminishing the quantity. My cough became better, but my strength still continued feeble, owing to my extremely low diet, and the copious action of the water. Unfortunately I took but little exercise, which I deem all-important while using the waters.

After a residence of three weeks at the Spring, and the constant use of the water during that time, to the manifest alleviation of the most pressing symptoms of my complaint, I was unexpectedly called home, in consequence of the illness of a member of my family. In the commencement of my homeward journey, my weak state compelled me to make very short stages; but as soon as I had crossed the mountains, and resumed my usual mode of diet, my appetite and strength returned rapidly, and I completed the distance of 308 miles in five days, without feeling the slightest inconvenience. The water seemed to produce its good effects in the improvement of my health for months after I had left the Spring.

It is not uncommon for persons to arrive at the Spring, who have not been able to sleep during the

night, even with the aid of opium, who, after drinking the water for a few days, find their nervous irritation so soothed and allayed that no other anodyne is required to procure them full repose for the night. This fact is so striking, that a young lady of this place, in writing to her father from the Red Sulphur, facetiously styles it "Sleepy Hollow."

The soporific effect of the water was most forcibly exemplified in the case of Mr. C. Smith of Georgetown, D. C., a gentleman of the highest respectability, who had been for some time laboring under chronic laryngitis, and had not enjoyed sleep for months, even with the aid of large doses of morphia. He arrived at the Red Sulphur a few days after myself, and immediately commenced a free use of the water. The third day after his arrival, he slept soundly all night, without either coughing or turning in bed, and not only continued to sleep well every night, but was compelled, from the drowsy feeling which it produced, to indulge himself in more than one nap during the day.

In a letter dated some years ago at this Spring, from the late F. W. Gilmer, Esq., professor of law in the University of Virginia, he says: "These waters are far superior to all others. In a few hours they allayed my cough so as to take away all that was unpleasant in it. They diffuse a sense of coolness, freshness, and newer life over the whole system. They abate the pulse most rapidly, remove

fever, lubricate and soften whatever is hard and dry, make one sleep as though he had taken an anodyne, are the safest of all waters, and, indeed, have no ill quality."

The late venerable Dr. R. H. Bradford of Virginia, who practised medicine for many years at the Red Sulphur, in a communication on the subject of the water, remarks: "The effect of this water in reducing the frequency of the pulse, is one of the numerous, singular and powerful properties belonging to it. It lessens arterial action to such a degree, that it seldom fails to remove fever, difficulty of breathing, and pain in the chest. When the patient is restricted to a proper regimen, this water may be taken with greater advantage in pulmonary cases than any other remedy I have ever seen employed for that purpose. It is also an important remedy in enlarged liver and spleen, and in diseases of the mucous membrane generally."

The Rev. W. M. Green of Hillsboro', North Carolina, makes the following communication, dated October 15th, 1837: "Having heard much of the efficacy of the Red Sulphur water, I determined to try it. Accordingly, leaving home early in July, I reached that place about the 10th, confining myself closely to the use of the water, and of the sulphur shower-bath for nine weeks. I had not been at the Spring more than two days before I began to experience a favorable influence on my system

generally, as well as an amelioration of some of the principal symptoms of my complaint. My pulse soon felt the wonder-working power of that mysterious, tempest-stilling agent which resides in those waters. Arterial action was greatly reduced, the nervous system composed, the cough brought down to a mere fractional part of its former proportions, digestion improved, sleep restored, urine rendered colorless, the stricture across the breast less oppressive, night sweats lessened; in a word, every painful and dangerous feature of the disease was moderated, and time allowed to shake off the enemy.

"The two most striking effects produced by the use of this water were, the evident reduction of arterial action, at the same time that the general system was recovering its tone, and the total extinguishment of that burning thirst which had been tormenting me for more than twelve months. I hesitate not to state here, what may appear incredible to many, that for nearly six months after I returned home, I felt no symptom of thirst, whereas, before my going to the Spring, scarcely fifteen minutes would elapse during the day between my calls for water. This latter effect was still more strikingly experienced in the case of the Rev. Mr. H**t of Halifax county, Va., who assured me, after visiting the Spring a single season, he remained a stranger to thirst.

"As to the effect on my pulse, although it was

decidedly marked and beneficial, yet there were other cases coming under my own observation of still more striking character. One I distinctly remember, that of a Mr. Boal, a young Irishman, residing in Lynchburg, Va. He came to the Spring by the advice of his physicians, who saw in him the well-known symptoms of pulmonary disease. On his arrival, the average stroke of his pulse was from 110 to 120 in a minute. In *three days*, without the aid of any other means than a free use of the water, it was reduced to the healthful beat of 65 strokes in a minute. The case of Mrs. B****r of Raleigh, is no less remarkable; such was the effect of the water on her arterial system, that a single glass was known to reduce the pulse 10 beats in a minute.

"My usual habit was to drink three or four glasses of the water before breakfast, three at 11 or 12 o'clock, two about 5 o'clock in the afternoon, and two on going to bed. I am convinced that what was taken late at night, and very early in the morning, was more efficacious than all the rest taken during the day. My exercise consisted in a ride of three miles before breakfast on horseback, another about sunset in my carriage, and in the interval an occasional game at the shuffle-board—a game, though not very refined, unquestionably admirably adapted to exercise a weak chest.

"It may be well to mention here, that on my re-

turn home my appearance was so little improved, as to produce an impression among my friends that my trip had been without benefit. Nor was the improvement which really had been produced, perceived in its extent, even by myself, until I had been at home a week or two. I mention this for the encouragement of other invalids, who return home dejected and hopeless, because they do not experience the immediate good effects of this and other sulphur waters. The effect is, in many cases, felt after the fatigue of the journey is over, and the noisy bustle of the watering-place forgotten amidst the comfort and quiet of home. I will only add, that after my return, I was enabled occasionally to occupy my pulpit, and to enjoy the society of my friends.

"The next season I sought the mountains again, finding my pulmonary symptoms removed. A third visit, two years after the second, served to remove every unpleasant symptom, and put the blessing of health once more in my reach. At this moment, the only remnant of my disease, which all my friends, and nearly all my physicians, pronounced phthisis pulmonalis, is an appetite which often needs the bridle of just moderation.

"To Him who preserved me be all honor and praise."

Mr. James Boal of Lynchburg, who lost two brothers by pulmonary consumption, in a commu-

nication dated Red Sulphur, August 5th, 1837, states: "A change of life, from being an active farmer to that of a sedentary store-keeper, produced constipation and general debility, (especially in my arms and knees,) a dry, tickling sensation in the throat, slight cough, and but little expectoration. The tightness increased, until riding a refractory horse, I had an attack of hæmorrhage. The discharge at first was pretty copious, of a scarlet, frothy appearance, moderating to a mixture of bloody phlegm. My nights were passed with but little sleep, and that disturbed by troublesome dreams. In the month of June 1828, had an attack of diarrhœa, and was very much reduced.

"About the 1st of July 1828, I visited the Red Sulphur Spring. My pulse on my arrival (when free from excitement) was about 120 pulsations in a minute. Commenced drinking the water, and in one week my pulse was reduced to 65 strokes in a minute, with an improvement in my strength and feelings generally. Supposing my cure effected, I omitted the use of the water for a few days, and found my pulse increasing in frequency. I again used it three weeks longer, when my pulse was reduced to its former standard of 65 strokes in a minute. My course of diet—for breakfast, dried toast and boiled milk, or black tea; for dinner, a little venison or mutton, rice, or cold wheat bread; for supper, cold rye mush and milk, always guard-

ing against rich sauces or pastry: took exercise in the open air. My plan was, to drink freely, say six or eight glasses of the water before breakfast, keeping in constant motion. The general operation of the water was that of a diuretic, and by taking exercise perspiration was very copious. My bowels were regular, once a day, and have continued so (except from casual indisposition) ever since.

"I visited the Red Sulphur in the summer of 1829, and had my general health so completely restored, that I am now here, in August 1837, on a visit to my old friend and benefactor, in perfect health."

The following communication is from Chief Justice Taney, of the Supreme Court U. S., dated Baltimore, January 8th, 1838:

"The information you have received as to the benefit derived from the Red Sulphur Spring by Mrs. Taney and myself, is correct. We spent six weeks or more there, in the summer of 1835, and both of us were in bad health when we went there. The journey, however, was taken on Mrs. Taney's account, and by the advice of Dr. Potter and Dr. Buckler. Her health had been failing for several years, and her lungs supposed to be seriously threatened. She complained of a pain in the breast, coughed a good deal, and had an excited and quick pulse. The alarming symptoms were entirely removed by her visit to the Red Sulphur, and she has since enjoyed her ordinary health.

"It is proper, perhaps, to remark, that although Mrs. Taney felt in some degree the benefit of the water while she remained at the Spring, yet we were not sensible of the extent of the improvement until some time after our return home. Both of us have since had much better health than we had known for years before, and we both have great confidence in the efficacy of those waters."

CHAPTER X.

TREATMENT.

Having now, I think, conclusively proved, not only that tubercular consumption is not *incurable*, but that the Red Sulphur water affords the best chances for cure or relief, I feel it incumbent upon me to make a few observations on the treatment of that disease.

I have always been of the opinion, that *too much practice* has been the great error of the profession in their attempt to counteract its progress. Gentlemen of the *Sangrado* family seem to think that while there is an ounce of blood in the body they must continue to cup, and leech, and phlebotomize their unfortunate patient, when, in fact, it is for want of blood, and from the defective quality of what he has, that his life is ebbing away to its kindred earth, as the tide returns to the bosom of the ocean. I do not say this is so in all cases, but I maintain, that the vast majority of cases of tubercular consumption are dependent on *constitutional debility*, and that, if you imprudently add to this condition by untime-

ly depletion, you at once prostrate those vital powers, which otherwise might have made some struggle against the enemy.

Do I then deny the utility of depletion altogether? By no means. If there be a congested state of the blood vessels, or any other indication absolutely demanding blood-letting, it should not be delayed. I am not arguing against a cautious and judicious depletion, but I protest against the practice of some physicians in sticking their lancet, upon all and every occasion, into their unfortunate patients.

The attention should first be directed to the cause of the patient's condition, and to the removal or modification of that cause. Nature, having a horror of dissolution, struggles to maintain herself against the foe: a feather thrown into the balance for or against her, may decide her fate. Oh! what a responsibility rests upon him who undertakes to correct her aberrations, and lead her back to the way she should go. It is not to be denied that tuberculous or calculous deposits in the lungs produce inflammation, and that sometimes it is so serious as to demand locally depleting remedies; but here we should stop, else we throw open the gates that otherwise may have opposed *some* resistance, however feeble, to the assailant. It is agreed by all, that in early stages of chronic consumption a change to the country air is proper. Now, it is evident, if any location combines all the advantages of a good climate

with an agent whose power in this disease has been ascertained, it affords *all* the chances which a change of residence can offer.

In the early part of this work, I took the occasion to give my own experience of the climate of the mountains of Virginia; and I here repeat, it cannot be surpassed, from the 1st of June to the 15th of November. In some cases of asthma it is unsuited, on account of its elevation; but, sheltered as it is from the northeasterly winds of our seaboard, it scarcely feels the equinoctial tempests, and the air is always pure, balmy, and invigorating.

I have already given my views of the species of diet which generally suits those who use mineral waters. At this Spring there can be no doubt that an act of imprudence may be more detrimental than at any other. Itself a sedative, if, under its use, the invalid gorges himself with a stimulating diet, it is disturbed in its operations, and, from being originally a sedative, may, by abuse, be converted into a stimulant. In the first stage, mild farinaceous diet is that pointed out by nature; in the latter stages more nutriment, and sometimes even a stimulant, is admissible.

The use of the Red Sulphur water, as I have recommended it, under the best circumstances of judicious management, suitable exercise, prudence in diet, and a residence during the winter in a mild climate, may, under Providence, restore many interesting persons to usefulness and their friends.

While some have been sceptical as to the value of the Red Sulphur water in tubercular consumption, others seem desirous to make the impression that it is good for *nothing else.*

Now, I think I have already demonstrated, not only that it is valuable in consumption, but that, acting on the human system not as a *specific*, but on great general principles, it is equally available in all cases of sub-acute inflammation and irritable condition of the system, whether produced by morbid function or organic lesion of some organ. That man, therefore, who acknowledges its value in diseases of the chest, and refuses his confidence in kindred diseases, can have but a faint idea of the nice physiological relations of the human body, of the pathological changes and complications induced by abnormal function, or of the influences exerted by remedial agents in restoring the balances that had more or less varied from the healthy standard. I shall conclude my notice of this water by taking a cursory view of the more important diseases to which it is applicable, and shall then leave its reputation to the great arbiter of all such questions—*public opinion.*

Chronic laryngitis may range from simple inflammation to ulceration of the mucous membrane, cartilages, and vocal ligaments, and even to the destruction of these parts. It sometimes attends tubercular disease of the lungs, and sometimes the

larynx itself is the original seat of deposition of tubercles. The prognosis is of course dependent on the mildness or intensity of the disease, and on the constitutional ability to resist its progress. The Red Sulphur will be found a powerful auxiliary in this disease. I have witnessed many most interesting recoveries by the use of this water in apparently very bad cases.

It seems, from the following interesting extract from MM. Trosseau and Beloc, the distinguished authors of a prize essay on Laryngeal Phthisis, &c., before the Royal Academy of France, that the waters of Bonnes and Cauterets, in the Pyrenees, are also celebrated for the cure of this disease:

"*Sulphur; Sulphurous Mineral Waters.*—Many physicians, chiefly those who have embraced the opinions of the new French school, consider as almost fabulous the cases of cure reported by Borden and many others, effected by the waters of Bonnes and Cauterets. But they who have studied the effects of the Pyrenean waters upon the spot, they who have often sent to them their patients, evidently attacked with pulmonary tubercles, will acknowledge the admirable cures which have been annually effected by this powerful means. Therefore we should never neglect the use of Sulphurous Mineral Waters, whether natural or artificial, in the treatment of various forms of laryngeal phthisis. Although secondary, they may, unaided, effect a

cure in the early stages of disease. We select the following case from a host of others:

"Mr. D., captain of artillery, thirty-four years old, was born of tubercular parents. His voice is rather grave, and not very strong, except in the high notes. He attended balls and soirées, and was much in the world for three months, when he perceived that his voice was hoarse, and complete aphonia soon followed. There was no expectoration or pain in the larynx, and the general health continued excellent, only he was greatly fatigued by the severe efforts that were necessary to make himself understood. There was nothing to induce a suspicion of disease in his lungs; he had never had hæmoptysis, catarrh, or angina. He used as a gargle one ounce of alum to a pound of water, for a fortnight, without amendment. Milk diet was then prescribed, with some advantage; to this was added one bottle of Bonnes waters per day. This soon effected an improvement, and a complete cure at the end of two months."

We see from the foregoing extract, that scepticism is not confined to the physicians of this country; it is indeed the natural result of medical research and experience, for no man can appreciate the difficulties of a science so well as he who has encountered them. But while on the one hand, the physician should be *slow* to believe, on the other, he should not lapse into incredulity. To him

may be applied with propriety, the general maxim so elegantly expressed by the Latin poet:

> Est modus in rebus; sunt certi denique fines,
> Quos ultra citraque nequit consistere rectum.

I have myself lived long enough to have observed that valuable hints may be gathered from haunts of ignorance. Utility is not only the mother of justice and equity, but also and more especially of invention. I doubt not many "*old women*" in the interior of our country have cured diseases, by some simple infusion or decoction, that would have resisted all the science of the faculty. Had man continued to live in his original simplicity, the trade of the druggist would not be so profitable as it is at this time. I firmly believe that the Almighty has sent no disease to afflict his creatures, for the cure of which he has not appointed some remedy, subject, however, to that immutable law which has allotted to man a certain amount of vital power which he cannot exceed, but which he may be deprived of by some disturbing force from without, or by the misapplication of agents intended as remedial.

Chronic Bronchitis.—The expectoration sometimes precisely similar to that of the latter stage of the acute, but most commonly less glutinous, more opaque and nearly puriform. Occasionally it is of a dirty-grayish or greenish hue, from an admixture of the black pulmonary matter. It is usually ino-

dorous, but sometimes becomes more or less fetid, and assumes the smell as well as the other physical qualities of the different kinds of pus. This disease frequently follows acute bronchitis, and is liable to persist with remission for years.

During the remission, the appetite and strength return; but the patient commonly loses a little flesh, and remains paler than usual. During repose there is no oppression on the chest, but exercise soon brings on dyspnœa. The complaint remits in the summer, and returns in the winter, frequently attended with fever. In some rare cases, hectic fever comes on with rapid emaciation, and the disease terminates fatally, with all the usual symptoms of phthisis pulmonalis. In fact, the most perfect similarity exists between the two diseases, as far as regards the expectoration, the emaciation, and all the other general symptoms.

Such are the characteristics of a disease which is becoming every year more prevalent in our variable climate, and which has assumed vast importance, not only on account of its frequency, but also on account of the evils which a continued impediment to respiration, may cause by producing congestion of the lungs and heart, and organic disease of the latter. This disease, when not the accompaniment of pulmonary phthisis, is usually manageable by proper treatment, and early removal to a mild climate. The waters of the Red Sulphur sel-

dom fail to relieve it, by removing the irritated condition of the membrane, and restoring a healthy secretion, and by imparting tone to the constitution. When this disease is attended with suffocating secretions, producing periodically great distress of respiration, much benefit will be derived, according to my own experience, in occasional emetics of ipecacuanha.

Having directed no supper to be taken, cause the patient to drink from half a pint to a pint of warm water; then give 15 to 20 grains of ipecac. The effect is at once to clear the tubes of accumulated secretion, to relieve the dyspnœa and calm the system by procuring for it a good night's rest. This treatment, in many cases, may be repeated every 48 hours with advantage. I have found emetics used in this manner also valuable in many cases of tubercular disease of the lungs. Nothing prostrates the bodily powers more rapidly than the constant attempt to expectorate, and indeed the hectic fever and sweats are greatly aggravated by this cause.

My advice to a person afflicted with bronchitis would be, to visit the Red Sulphur about the 15th of June, and use the water until the close of the Indian Summer, (say 1st to 15th of November,) and travelling thence southwards, on horseback if possible, spend the winter and spring in Cuba.

Most invalids from the Northern States return too soon, and proceed directly home. Now, this is

wrong; they should land at the southern extremity of the Union, and advance homeward according to the natural progress of the season. It is evident that a sudden transition from the climate of Cuba to that of Massachusetts is imprudent, and if made before the summer fairly sets in, may be hazardous; whereas, there would be little danger in arriving in New Orleans in April, and thence travelling northward so as to find somewhat the same temperature in one's progress.

Hypertrophy of the Heart.—From my remarks on indigestion in a former chapter, it will be readily seen what a vast influence is exerted over that organ by the stomach and lungs, both by the quality of the blood, as produced by a healthy or vitiated chyle, or by a perfect or imperfect oxygenation dependent on the function of respiration.

And, moreover, I think the reader can be at no loss to comprehend the *modus operandi* of the Red Sulphur in restoring the functions of this organ to a normal condition. The most conclusive evidence of its power in functional diseases of the heart may be adduced in several cases, in which the action of the arteries and heart has been reduced in frequency from 30 to 40 pulsations in a minute. Is there any other agent known to science that will do this? I humbly conceive there is not; and, therefore, I venture to promise patients affected with functional disease of the heart, the best results from a judicious use of this water.

The Kidneys and Bladder.—I shall touch upon the disease of these organs, from which relief may be expected at the Mineral Waters of Virginia. All sulphur waters claim to be beneficial in gravel, and I think they are so in a greater or less degree.

The form of disease in which they are most useful is lithic-acid gravel. "*Sand (civiale)* is understood to be a powdery deposit, which takes sometimes the form of a very fine powder, and sometimes, or more frequently, of grains caused by the agglomeration of little crystals, which are easily distinguished with the *lens*, or that are sometimes perceptible to the naked eye. This deposit is most frequently of a bright red color, though, in certain cases, it resembles that of brick-dust, or is gray, ash-colored, black or dusky."

"*Gravel* (says *Dr. Christison*) may be defined the discharge of pulverulent or gritty matter with the urine, occasioning symptoms of irritation in the kidneys and urethra."

The most frequent cause of gravel is indigestion, especially that species of it attended by acidity. When the fluid, overcharged with acid, is presented to the kidneys, it is secreted in excess; the lithate of ammonia is decomposed, and the acid precipitated. Another and very extensive cause of gravel is *hard water*. Of this fact I can speak experimentally. When riding through the mountainous region of the Alleghany, and using the water in most

districts of that region, I never have escaped with impunity, and I have uniformly suffered from using the strong limestone water of a village in that country. It is on this account that in this form of the disease, (lithic-acid gravel,) I should doubt whether the Sweet Springs may be used with safety, abounding as it does with calcareous matter. The White Sulphur, Blue Sulphur, and Salt Sulphur would be more likely to suit the invalid, more especially the last, as it is certainly more anti-acid than the others; but they have all to contend with the *hard*, *harsh* quality imparted by the sulphate and carbonate of lime; and therefore, if there should be an irritated condition of the kidneys, which is almost certain to be the case in a greater or less degree, the use of the Red Sulphur alternately with the spout bath at the Hot Springs, will be the most efficient treatment.

I have already intimated that a little bicarbonate of soda may be used with advantage, in connection with the sulphur waters. Candor requires me, however, to confess that relief from this complaint must necessarily be temporary, from any remedy but a strict regimen, and abstinence from whatever may have produced the predisposition. Irritation of the bladder, when produced only by functional disturbance, or excitable nervous temperament, will be relieved by the waters of the Red Sulphur.

Uterus.—In a work which is intended for the eye

of the general reader, it will only be necessary to touch lightly on the diseases of this organ. Those which may be considered under the remedial powers of mineral waters are *amenorrhœa*, or obstructed menstruation, *dysmenorrhœa*, or painful menstruation, and *menorrhagia*, or excessive menstruation.

Amenorrhœa is of two kinds; one dependent on constitutional debility, and the other attended by the appearance of good health.

In the former, according to Drs. Ferguson and Simpson, the symptoms are, languid circulation, muscular debility, torpor, or inequalities of the nervous function and defective nutrition. When allowed to proceed uninterruptedly, amenorrhœa terminates in *chlorosis*. In this condition of the system, that mineral water will be the most useful which will arouse its torpid energies. Presupposing there is no organic lesion, such as tuberculous condition of the lungs, the bath at the Sweet Springs will be found the greatest remedy in this disease; but if it be complicated with diseased lungs or bronchi, then the invalid's hope is the Red Sulphur. In the form accompanied by plethora, Dr. Goode's spout-bath, under *his advice*, is the appropriate remedy.

Dysmenorrhœa.—In this form of disease, I recommend Dr. Goode's spout-bath as the best remedy known to me. In all cases, this remedy must be used under advice. The Red Sulphur, as a *sedative*, may, with great advantage, be alternated with the Hot Springs.

Menorrhagia.—It is clear that no agent that excites the system is admissible in this disease. Females laboring under this form of uterine affection will, therefore, find the Red Sulphur alone appropriate, connected with a mild, unexciting regimen. I venture to say, that if the distinctions I have pointed out be observed, most of the cases of diseased uterine function attending the Virginia Springs will obtain relief, and that many a charming woman, whose hopes of fruitfulness have been blighted, will become a happy, thankful mother.

Some distance up the branch is a little Spring, discovered in 1840, and which is now called Hicks' Spring—a gentleman by the name of Hicks, from Mecklenburg, having ascribed his cure from chronic diarrhœa to its use. The general character of the water is the same as that of the great Spring; but it is weaker, and the temperature higher, by several degrees. It has this advantage, that it requires exercise in going and returning; but I would not recommend to invalids to rely *exclusively* upon it. The stream is exceedingly feeble.

The Red Sulphur is owned by the heirs of the late Andrew Beirne and James A. Dunlap. The place is under the superintendence of Mr. Alexander Dunlap. It is but justice to say that, so far as I have been informed from report as well as my own observation, the accommodations and attentions afforded here have given general satisfaction. There

were some murmurs last year about the want of music, and the gaiety that usually attends its presence, but Mr. D. gives assurances that the omission will not hereafter recur.

I would very respectfully call the attention of the proprietors to the fact, that they are permitting the grounds to become too much shaded. The valley is by nature deprived of some portion of sunshine, and it is therefore more necessary it should not be artificially obstructed. The trees in the lawn should be trimmed out, and the impending mountains again cleared.

A large building, for mercantile purposes, has been erected within a year, and thrown across the narrowest part of the neck of the valley, as if to stop its *windpipe*. In a place claiming to improve the organs of *respiration*, it seems rather an unscientific operation to deprive the lungs of a due share of *oxygen;* but it is only another instance of the bad taste that has marred so many of those naturally beautiful watering-places.

The turnpike road between the Red and Blue Sulphur is now completed. It is one of the best and most beautiful roads in the mountains, crossing the Greenbrier river at a very interesting spot. It is a drive of five or six hours, permitting the traveller to breakfast at one Spring and dine at the other. In the whole round of the Western Springs, there now remain nine miles to be turnpiked, and these are

the first nine miles from the *Salt* to the *Red*. The proprietors of both should unite and complete this link.

The Red Sulphur Bear.

The following composition appeared in the Southern Literary Messenger for November 1850. It is from the pen of the late Francis S. Key, who, in the summer of 1838, was a visiter at the Red Sulphur when the incident on which it is founded occurred. The version in the Messenger contains several errors, which it is but justice to correct, since the original manuscript is before me. It really was a most exciting and affecting scene, and one not to be forgotten by those who witnessed it.

A few days subsequent to the occurrence, the band had a concert, and this recitative and song, furnished by Mr. K., formed a part of the entertainment. It was recited and sung with admirable intonation and expression, by Benjamin Judah, who has frequently since repeated it with just applause.

There was a Bear—alas, that we must bear
The loss of such a bear! He was the pet
And playmate of the children, men and maids.
The ladies, too, wept briny tears for him,
Till all the Springs were salt—For much he loved
To play his tricks before them, and to take
From their fair hands the dainties they would bring,

And they would stroke his sable fur, and feel
His velvet paws, and then he lick'd his paws.
And paws so touched, he could have licked and lived
Long on such licking.—But, alas! he died.
Now a bare bear-skin and some bare bear-bones
Are all that's left of Bruin,—save at night
When blaze the lights upon the mountain side,
And music o'er the valley floats, and calls
The bright-eyed maidens to the sprightly dance—
Upon the glossy curls that shade the cheek
And brow of beauty, Bruin's fat is there,
Soft'ning and polishing the silken locks.
Bruin! thy chops were savory—so said
The chaps that did thereon their chops regale.
The ladies ate thee not—they would not feed
Upon a tam'd and educated bear.
Nor me, could steak or cutlet, fried or broiled,
Stew'd paw, or garnished head, tempt to that feast.
For I had seen thy death—It was a death
Unseemly for a bear—unworthy of thy race.
But had'st thou died among thy native wilds,
When hound and horse and horn had from thy lair
Arous'd thee, and thou nobly stood'st at bay,
And many a fierce foe howl'd his last
Within thy perilous embrace, and gallant hunters
Clos'd round thee slowly, marking thy dread glance,
Admiring thy stern courage, giving death
In honorable wounds,—then had'st thou died
A death of glory, and had I been one
Of that proud ring, I could have join'd the feast
Won by fair chase and combat—eat thy steaks,
And pick'd thy bones unscrupulous.—Alas!
Far other was thy death—a felon's death
The cowards gave thee—threw around thy neck
A noose, and thrice essay'd to drag thee back
As a vile prisoner.

Once, when escap'd, I mark'd
His noble bearing, when his fierce pursuers
Fled from his glance. He look'd upon the mountain,
And then I hop'd to see him climb its top,
And turn, and growl defiance. One there was,
Of courage dauntless, in the crowd of foes,
*Cæsar** by name—Cæsar by nature too.
He calls to Bruin as he slow retires,
In words of scorn and menace—Soon he turns—
They meet—they close—more doubtful conflict never
Did battle-field display. Well were they match'd;
Both brave, both black, and equal both in height;
For Bruin boldly raised himself erect
Upon his hinder limbs, and brandish'd high,
And huge as giant's arms, his fierce fore-paws.
Soon Cæsar seiz'd, with dext'rous jerk, the rope
Pendant from Bruin's neck—as soon the paws
Of Bruin o'er the shoulders broad, and back
Of Cæsar, closed in deadly grip; that hug
There was no standing, and so Cæsar tripp'd him.
For Bruin, though he stood on two feet well,
Had never practis'd one in his gymnastics.
He falls!—Cæsar above him—still the strife
Is desperate. And, lo! now Bruin turns
Upon him with a growl and fiercer grasp.
Now, Cæsar! ply thy rope—thy life depends
Upon the hold it takes—thy foe's strong throat
Must be compress'd that not a breath may pass.
Thy ribs now almost touch, the heart scarce beats
Between them—quivers, and must soon be still.
One other little breath, one other strain
Of those strong arms—and Cæsar is no more.
That other breath comes not—one desperate pull,
And the rope clos'd the passage. See, he gasps—
One last convulsive struggle ends the strife.
Those mighty paws, now weak as baby's hands,

* A cock at the Red Sulphur.

Cæsar has thrown aside—His heart has room
Again to beat—He rises conqueror.
Such was the end of Bruin—yet before
That fierce encounter, other means were tried
To lure him back to bondage.—It was said,
"Music had charms to soothe the savage beast,"
And that he often seem'd, when the full tones
Of richest harmony flow'd from the lips
Of his kind mistress, to drink in the sounds
With rapture, like all other listeners.
Music was therefore tried.—The band was call'd,
And captivating were the strains they pour'd
In Bruin's ears—but it was vain, for he
Would not be captivated. Then they call'd
Two of that band, with voices sweet as notes
Of nightingale, of power to charm the ear
Of every listener, and calm the heart
With all the magic influence of song.
They came, and breath'd in sweetest melody,
A plaintive ditty to this angry bear,
Beseeching him to lay aside his wrath,
Resume his chain and live among his friends.
He heard and heeded not—and when you hear
The song that he received so sullenly,
You'll wonder that the Bear was such a brute,
And think he justly died.—The song ran thus—

O Bruin! O Bruin! come back to thy chain,
Nor seek thy far home o'er the mountain again;
For the mother that bore thee will know thee no more,
And thy brother cubs drive thee away from the door.

Why would'st thou return where you nightly must howl
In thy hunger, as through the dark forest you prowl;
To fight the wild bees for their hoard of sweet food,
Or spoil thy teeth cracking the nuts of the wood?

What a life thou hast led since thou haply wast caught,
And here to this sweet little valley wast brought!

Its blest waters thy drink, its rich dainties thy fare,
What more could be asked for man, woman or bear?

It is true you are tied; but, Bruin, you know
It is all for your good that you are kept so.
How many are here, who would gladly agree
To be tied to a tree, could they fatten like thee?

We have tam'd you and fed you, and now you are here,
Your polite education engages our care—
Your manners are mended, some clever things taught,
But greater attainments are still to be sought.

*Carusi** is here, and shall teach you to dance,
How to enter the ball-room, and bow and advance
To the ladies, who sit in a beautiful row,
Each waiting to see if the Bear 'll be her beau.

Then the waltzing—O Bruin! think only of that—
That a lady's bare arms, with thy bear arms enwrapt!
Thy bear-skin her bare skin shall touch—O! what Bear
Can bear any pleasure with that to compare?

O! think of thy paws when thy dancing is done,
When the summer is o'er, and the ladies are gone;
Through the long winter nights, when the snow-flakes fall thick,
Thy lady-press'd paws will be luscious to lick.

* A distinguished dancing-master, from Washington city—a visiter at the Red Sulphur.

CHAPTER XI.

SALT SULPHUR SPRINGS.

The Salt Sulphur Springs are situated on Indian creek in Monroe county, 17 miles from the Red Sulphur, 33 from the Blue Sulphur, 25 from the White Sulphur, and 22 from the Sweet Springs.

This interesting valley is of singular formation. Two hills on the north and northeast approach each other, leaving a narrow gorge between them, through which winds, in a gentle curve, Indian creek, until it reaches the base of another still higher and steeper hill on the northwest, by which it is turned in a southwestwardly direction. Some short distance below this neck the vale begins to spread out like the shell of a terrapin, and forms one of the prettiest coves imaginable, commanding a view of the graceful Peters' mountain rising into the southeastern horizon, at the distance of about eight miles, and Swope's mountain in the northwest, at the distance of about two miles. The hills immediately bounding the valley are what the natives call *knobs*—an inelegant, but very appropriate designation.

The space between these hills is at its northern extreme covered with numerous buildings, and the grounds extending along the stream are neatly and tastily improved, and are shaded by a great variety of the most beautiful indigenous trees and vines. The good sense of the proprietors—perceptible in this as in all their arrangements—has caused them to cut down the forests from the impending hills, and keep them in a state of cultivation; and this it is that has given the location character for being drier than those of the neighboring Springs.

God gave his bright sun to cheer, and gladden, and comfort, and invigorate, and where it does not penetrate, there can neither be health, beauty nor comfort. It is well enough to talk of the shade; it is a subject of eulogy to the poets; but man, healthy, vigorous, intellectual man, requires those warming rays that seem like emanations from the God of Nature himself. There is no greater mistake than to overshade those watering-places. The sun's heat is oppressive only for a few hours every day, and a dozen fine trees, with the porticoes, afford shelter enough from its rays for this short period, whilst at eve, and early morning, it is essential for attracting the superfluous moisture from the investing atmosphere.

As you enter the beautiful lawn the hotel presents itself with gable in front. Here is the bar-room, where gentlemen are received. This build-

ing is of wood, is two stories high, and runs back some 200 feet, the dining-room on the first floor occupying the whole length. There is a wing containing a private parlor and family apartments. On the second floor is a large ball-room and many chambers, that are very comfortable and always in demand. There is a double piazza the whole length of the building. At right angles with it are two comfortable cabins, and a very neat and comfortable stone house, two stories, with double piazza, and containing several apartments.

Along the slope of the hill there has been erected by the enterprising proprietors a stone edifice, three stories high above the basement, of more massive proportions than even the great building at the Sweet Springs. I think it is 210 feet long by 32 feet wide on the inside. It has several passages running across the house, and from these ascend the stairways. There are, I think, 80 chambers, with a fire-place in each. On the first floor four of those chambers are united in one very spacious parlor, in which the inmates pay and receive visits, and congregate for social intercourse. There are three covered piazzas or galleries running the whole length of the building. This is the locality most in demand, and it is, indeed, exceedingly comfortable. Besides these improvements there are three long ranges of cabins, connected by piazzas, affording many comfortable rooms. The whole of the build-

ings here ought to accommodate 350 visiters, and they would do so in the hands of others; but the kind, indulgent disposition of Messrs. Erskine & Caruthers *spoils* their guests, and they seem to go here for *elbow room*.

This is certainly one of the most delightful summer retreats that can be met with anywhere. I spent there the greater part of last season, and I can testify, from personal observation and experience, to the uniform kindness of the hosts, the excellent, indeed sumptuous fare, the neatness and comfort of the bed-chambers, and the general good order pervading the whole establishment. If the visiter desires to have his appetite sharpened for fine, rich, cool milk and delicious butter, let him take a peep at the dairy and see the nice vessels with their contents standing in the clear cool limestone spring. Here he will get in its perfection a fine, juicy slice of sweet, tender mountain mutton, venison or beef, and poultry, eggs, and everything that abundant region affords. For breakfast he has fine bread, loaf and indian, and all sorts of cakes, hominy, &c. But I need not farther specify the good things to be met with here—the place has been famous for good living for the last thirty years.

The South Carolinians, who understand comfort as well as perhaps any other people on this continent, found out this place long ago, and they come to it every season in considerable numbers.

There is no place in the mountains, where the society is more select, more charming, more intellectual, than it is at the Salt Sulphur. Gaiety and happiness seem to reside here, as it very rarely happens that it is rendered sombre by the presence of persons in very low health. There is a very neat and substantial church here, built of stone several years ago, by contribution of visiters. It is free to all denominations of Christians, and is frequently open during the summer season. This is a comfort which is usually and justly appreciated. There is a store here also, and several shops for mechanical purposes, which often prove a source of convenience to visiters.

The Salt Sulphur is situated on the verge of one of the finest countries in Virginia. It would be difficult to find anywhere a tract of country more fertile and valuable than that enclosed by the parallel ridges of Swopes' and Peters' mountains, and by lines drawn from one to the other, touching the Salt Sulphur at one extreme, and the Gap mills and Second creek at the other, being about 100 square miles. Without mentioning the other fine estates included in this region, those of the Beirnes and Capertons are conspicuous. Magnificent herds of fat cattle may be seen on their fields every summer, wallowing in luxuriant grass—an evidence of abundance that is agreeable to every eye. Two miles and a half from the Springs is the county town—

Union—a very pretty village, containing an academy, two or three churches, a courthouse, two taverns, and several well-supplied stores.

The Mineral Springs are, first, the Salt Sulphur *proper*, about 150 yards down the lawn from the hotel across the creek, over which you pass by a wooden bridge. This Spring is enclosed in a square box of marble slabs, about 2½ feet in diameter, and covered by a plain, circular temple. It is not a very bold stream, but affords, nevertheless, an abundance of water for all purposes required. It is a strong sulphur water, highly charged with saline ingredients, as may be seen by the analysis. About 100 yards below was discovered the *New*, or Iodine Spring, a few years ago, and immediately improved. It is enclosed like the former, and covered by a suitable building. It appears from the analysis of Mr. Rogers, that in some of its ingredients it is almost identical with the old spring, but contains the important additional ingredient of Iodine.

Both of these waters, with that of the Sweet Sulphur, a short distance up the creek, have been sent on to Baltimore for more minute analysis, and if the results reach me before this work goes to press, they will be given in detail. Meantime, I refer the reader to the classification of Dr. Mütter, a distinguished physician of Philadelphia, of the diseases in which he has known, from personal observation, those waters to be applicable. His high standing

entitles his opinions to a degree of authority no individual so humble as myself can possess. I therefore yield to him the space I might otherwise occupy on this part of the subject, and I do it with the greater pleasure because I agree with him in most of the virtues he ascribes to these waters.

I must confess that, until last summer, I was sceptical as to the virtues ascribed to the *Iodine Spring*, at this place; but I saw some well-marked cases of tuberculous and scrofulous diathesis in which its use seemed to be attended with advantage. The manner in which the presence of Iodine was enunciated was the difficulty with me—it being given as a trace. But whatever misunderstanding there may have been on this head, experience proves the water to produce medicinal effects similar to those produced by *hydriodate of potassa*.

To persons, therefore, who are of the scrofulous predisposition, as well as to patients affected by incipient goitre, or the various diseases of the skin, this water may be recommended with confidence.

There are conveniences for bathing here that are quite comfortable. Baths of any temperature may be obtained at all hours.

CHAPTER XII.

DISEASES TO WHICH THE SALT SULPHUR IS APPLICABLE.*

The Salt Sulphur, like almost all the sulphurous waters, being a stimulant, should consequently not be employed in acute or highly inflammatory affections, nor in those in which there exists much active determination of blood to the head, or at least not until this determination has been guarded against by previous *diet*, *purgation*, and if necessary, *blood-letting*. But in all *chronic* affections of the *brain*, *stomach*, *bowels*, *liver*, *spleen*, *kidneys* and *bladder*, it is one of the most valuable of our remedial agents. In diseases of the joints (gout and rheumatism) and skin, in *mercurial sequelæ*, in hæmorrhoidal affections and in chronic diseases of the womb, it is also a remedy of immense importance.

1. *Of Chronic Diseases of the Brain.*—In no class of diseases, probably, is there required more caution in the exhibition of a mineral water, and especially of one which, under ordinary circumstances,

*Dr. Thomas D. Mütter.

excites the system at large. Many persons on this account have prohibited its use; but experience, the only sure guide, has shewn that many a case of chronic headach, incipient mania and local palsy, dependent on congestion or chronic inflammation of the brain, will yield to the steady use of a cathartic mineral water, when almost every other agent has failed. For such cases the Salt Sulphur seems peculiarly adapted; but it must be used with caution, and assisted, if necessary, by local depletion, counter-irritation and diet.

2. *Neuralgia.*—It is well known to the profession, that neuralgic affections are often dependent upon a deranged condition of the chylopoetic viscera. The habitually costive, or those who have suffered from repeated attacks of miasmatic diseases, and the dyspeptic, are generally most liable to attacks of neuralgia. In such cases, I have known the Salt Sulphur prove highly beneficial.

3. *Nervous Diseases.*—The various affections termed nervous, such as hypochondria, hysteria, catalepsy, chorea, &c., are also dependent upon disorder of the digestive apparatus, and resist all our remedies for months and years. In such cases, a trip to a Mineral Spring is generally recommended, not so much for the waters, probably, as for the change of air, scene, mode of life, &c., which it entails. Making all due allowance for the beneficial action of the last named agents, I am confi-

dent that the steady cathartic action of the water is of infinite benefit. Two cases of chorea, and one of hysteria, I saw completely relieved in the course of six weeks, by the use of the Salt Sulphur water.

4. *Chronic Diseases of the Chest.*—Diseases of the thoracic viscera are unfortunately too common in our country, and hence we find crowds of their unfortunate victims at nearly every watering-place, seeking, and too often but vainly, some relief from their distressing condition. In some cases, those, for example, in which the irritation is dependent upon the retrocession of some habitual discharge, and those, too, in which the skin is *dry* and *cool*, and the indication is to produce a revulsion to the surface, by directing fluids from the centre to the circumference, which will also facilitate expectoration, the cautious administration of the Salt Sulphur water will be useful.

In those cases, also, in which the cough is sympathetic, or dependent upon some lesion of the chylopoetic viscera, it may be employed; but in every instance where it can be traced to an organic affection of the heart or large blood-vessels, and if there be fever, emaciation, tubercles, with cavities in the lungs, hæmoptysis, or diarrhœa, the death of the patient will be hastened by the employment of a stimulant so active as the Salt Sulphur.

For pulmonary cases, the Salt Sulphur offers the advantage of an agreeable temperature and a

dryness of atmosphere not possessed by the other Springs in the mountains of Virginia. During the season, which continues from the 1st of June to the middle of September, the thermometer ranges from 70° to 85° Fahrenheit, and there is little or no fog in the morning.

5. *Chronic Diseases of the Abdominal Viscera.*—In making an estimate of the cases of disease one meets with at a watering-place, it will not, I think, be going too far to say, that two-thirds at least are referable to some affection of the abdominal viscera. Hepatitis, jaundice, splenitis, gastritis, gastralgia, pyrosis, dyspepsia, enteritis, diarrhœa, &c., are encountered at every turn.

In *Hepatic Affections*, or those commonly called *bilious*, the Salt Sulphur water is, without doubt, one of the most powerful and efficient remedies we possess. When taken in a proper manner, its sanative influence is speedily manifested by a change in the biliary secretion. Constipation, the usual attendant upon such cases, is relieved, the sallowness of the skin disappears, and in the course of a few weeks a complete and radical cure is often accomplished.

Chronic Splenitis.—One of the most common, and at the same time one of the most obstinate of the sequelæ of the fevers of the South, I have known frequently relieved by the use of this water, as well as by that of the White Sulphur.

Chronic Gastric Irritation, it is well known, is of-

ten relieved by the administration of an agent calculated to set up a new action in the mucous coat, and those cases of dyspepsia which depend upon such a condition of the stomach are often relieved by the use of a sulphur water. A number of such are annually met with at the Salt Sulphur, many of which leave the Spring perfectly cured.

Gastralgia, or *Nervous Dyspepsia*, is also occasionally met with, and may depend upon a variety of causes. When it is purely a functional disease, unaccompanied by organic lesion, a sulphur water, along with sulphur baths, will sometimes produce a very happy effect.

Pyrosis, or *Water-brash*, is another disease to which the Salt Sulphur proves pre-eminently useful. I have known cases in which a pint or more of secretion so acid as to set the teeth on edge, was daily thrown up, radically cured by the use of this water in the course of six or eight weeks. (Mr. F. of Princeton is an example of this.)

When dyspepsia is known to be dependent upon scirrhus or cancer of the stomach, I would strenuously advise the patient to abstain from the use of the Salt Sulphur, and indeed from that of any mineral water. Mrs. C. of North Carolina was, I am convinced, destroyed by it.

Chronic Irritation of the Bowels, giving rise to chronic diarrhœa or dysentery, upon the principle of a new action being set up, are frequently cured

by the use of the Salt Sulphur. I wish this statement to be borne in mind, for it is usual to decry the use of the Salt Sulphur water in such cases; but the experience of those who have paid attention to the subject will bear me out in the assertion. Mr. T. of Philadelphia, who for three years labored under chronic diarrhœa, and who was supposed to have ulceration of the mucous membrane of the bowels, was radically cured by a few weeks' use of the water.

Constipation.—Habitual costiveness is another affection for which the Salt Sulphur is an excellent remedy.

Hæmorrhoids.—The use of laxatives in piles is a treatment so long in use, that nothing need be said in its favor, but that sulphur water operates much more beneficially than any other agent, inasmuch as in nearly every case of chronic piles we find the liver more or less affected. This fact, first observed by Armstrong, is so universally admitted, that I shall not stop to say anything towards its further substantiation.

6. *Chronic Diseases of the Urinary Organs.*—From the fact that nearly all mineral waters, either from the quantity usually taken, or from some peculiarity of their ingredients, prove diuretic, they have always been favorable remedies in diseases of the urinary organs. Those which contain an excess of

alkaline ingredients have, without doubt, proved remarkably serviceable in cases of *acid* calculous diathesis; but it must be confessed that, as a general rule, and always where the stone is large, they prove but a doubtful remedy. In the incipient stages of a calculous disease, however, and those especially in which the formation of stone is dependent upon some disease of the digestive apparatus, the Salt Sulphur waters are often useful. When this water fails to accomplish the desired object, I have seen that of the *Sweet Springs* productive of much good.

Although this water may be considered as a somewhat doubtful remedy in calculous disease of any duration, it must be allowed to possess astonishing sanative properties in chronic irritation of the *mucous membrane of the kidneys, bladder, prostate gland and urethra.* Many cases of chronic nephritis, vesical catarrh, prostatic irritation and gleet, are annually cured by its employment.

7. *Chronic Diseases of the Genitals.*—Like all sulphur waters, those of the Salt Sulphur are often very useful in obstinate cases of general or local debility, the result of previous excessive indulgence. They are also remarkably beneficial in atonic leucorrhœa, amenorrhœa and dysmenorrhœa; but when either of these complaints is dependent upon local or general plethora, the use of the water must be

preceded by depletion, either local or general, according to circumstances.

8. *Chronic Rheumatism and Gout.*—The diseases most frequently met with after those of the digestive organs, at our different watering-places, are rheumatism and gout. In all such the alterative influence of a sulphur water is invariably, I believe, more or less useful; but to receive full benefit from its use, the warm or hot mineral bath should be resorted to, and the diet, clothing and exercise properly regulated. With many others, I cheerfully acknowledge the immense benefit derived from the use of the Salt Sulphur.

9. *Mercurial Rheumatism, Periostitis and Inflammation of the Bones* are also very much relieved (in most cases) by the use of the Salt Sulphur. Along with the water it will be well to use the hot baths.

10. *Chronic Diseases of the Skin.*—When judiciously administered, no remedy is productive of more permanent benefit in all cutaneous affections, than the sulphur waters, but unfortunately they are but too often abused. They are only suitable when the eruptions are of long duration, and unaccompanied by inflammation. Used in the acute stages, they aggravate the symptoms. It is always proper, moreover, to employ the warm or hot baths during the use of the water. The Salt Sulphur is often eminently successful in relieving cases of this kind.

I have thus briefly sketched the principal affections to which the Salt Sulphur is applicable; and to shew that my assertions are borne out by facts, I insert the certificates of several persons, who, with myself, were very much benefitted by its use.

SALT SULPHUR SPRINGS,
July 29th, 1835.

To Messrs. Erskine and Caruthers,

GENTLEMEN,

The undersigned, visiters at the Salt Sulphur Springs, prompted by a sense of grateful respect for your kind and unwearied attentions to ourselves and families, beg leave to convey to you our assurance of entire satisfaction with the arrangements of your establishment. Such have been the cordial hospitalities and ample and varied accommodations of your house, that we shall ever look back to our temporary residence with you with pleasure and delight.

Experience, which is the best analysis your Springs can have, justifies us in recommending it as an invaluable anti-dyspeptic water, relieving the liver, bowels and vascular system, and acting very kindly upon the secretions generally.

If order, abundant and well-prepared fare, excellent bedding, quiet and obliging domestics, impartial and gentlemanly efforts to promote health and

comfort, have any influence upon public favor, the proprietors of the Salt Sulphur will certainly secure it.

With sentiments of respectful regard,

Your obedient servants,

Rev. Benjamin M. Palmer, Charleston, S. C.; James Chestnut, Camden, S. C.; Jos. Otis, New York; Rev. John Johns, D. D., Baltimore, Md.; Alfred Leyburn, Lexington, Va.; Rev. Henry V. D. Johns, Fredericktown, Md.; H. V. Levis, Philadelphia; Wm. H. Hubbard, Richmond, Va.; Thomas Wilson, Baltimore; Thos. Easley, Halifax county, Va.; A. Sebrall, Kanawha, Va.; Wm. Ellicott, Ellicott's Mills, Md.; Willis Jones, M. D., Milton, N. C.; Henry P. Norris, Baltimore; R. Jones, U. S. A., Washington; W. B. Meacham, Miss.; Peter H. Dillard, Rockingham county, N. C.; James V. Toby, New Orleans; George L. Twiggs, Ga.; Richard Tuban, Ga.; S. T. Gaillard, S. C.; P. A. Clay, Bedford, Va.; Jacob V. Davies, Baltimore; Samuel R. Smith, Baltimore; Robert M. R. Smith, Baltimore; J. B. Grimball, S. C.; Oliver Norris, Baltimore; A. K. Brown, Petersburg; William A. Caruthers, M. D., New York; John Clark, M. D., New York; Samuel St. John, Jun., Mobile; William Wilson, Lexington, Va.; Charles S. Richards, New York; Olio Dyer, Mobile; William Bones, Charleston, S. C.; John P. Staples, Patrick county, Va.; George Walton, Lynchburg, Va.; John T.

E. Lewis, Brunswick, Va.; James Greenlee, Rockbridge county, Va.; Benjamin B. Duke, Louisa county, Va.; M. H. Dosson, La.; William Brown, N. C.; John Harleston, S. C.; S. Garland, Lynchburg, Va.; Francis D. Quash, S. C.; George C. Friend, Charlotte county, Va.; Edward Wilkins, N. C.; Orlando S. Rees, S. C.; J. B. Billysley, S. C.; Thomas Shivers, Philadelphia; F. Pinckney Lowndes, Charlotte, S. C.; Thomas W. White, Halifax county, Va.; Burwell Bassett, Williamsburg; C. P. Dorman, Lexington, Va.; Charles H. Robertson, Charlotte county, Va.; Henry Robertson, Charlotte county, Va.; Samuel N. Stevens, Charleston, S. C.

SALT SULPHUR SPRINGS,
August 13th, 1838.

Messrs. Erskine and Caruthers.

GENTLEMEN,

Having been greatly benefitted by drinking the waters of your valuable Spring, I deem it a duty to my fellow-beings to leave this statement of my case in your hands. For six months previous to my coming here, I had been suffering with a most obstinate constipation of the bowels, which I had tried in vain to remove by medicine, diet and exercise; and during that time I could not obtain a stool without the aid of an injec-

tion, and great pain attending it. After being here ten days, the Salt Sulphur water began to act freely on my bowels, and now, at the expiration of a month, I am glad to inform you that the constipation is entirely removed, and my strength restored, and I am going home in cheerful spirits to my friends.

Yours truly,

GEORGE A. BUTT,
New York.

SALT SULPHUR SPRINGS,
August 10th, 1836.

Mrs. —— left her house in a state of great debility, scarcely able to walk, and was but little recruited by the journey. She reached the Salt Sulphur on the 20th of July, having stopped a week at the White Sulphur on the way, but without using the water. After remaining three days at the Salt Sulphur, and partaking of the waters there, she proceeded to the Red Sulphur, and staid there six days, returning on the 29th July to the Salt, having, while at the Red, used two or three tumblers of the water per diem; remained at the Salt Sulphur until the 9th of August.

When Mrs. —— arrived first at the Salt Sulphur she weighed 91 pounds, and was unable to walk any distance, or use any degree of exercise, without great suffering. In thirteen days after her arri-

val at the Salt Sulphur she was again weighed in the same scales, and had increased to 95½ pounds, making a gain of 4½ pounds in weight, while the circumference of her waist had been reduced nearly five inches. In the interim, her countenance and eyes had undergone an essential change for the better, her spirits and strength restored, so as to take any ordinary exercise of riding or walking without inconvenience. The quantity of water which she ordinarily took was from three to four glasses per diem, and she was careful in her diet, avoiding all warm bread, and principally using bran bread, hominy, mutton, &c., &c.

STAUNTON, March 1822.

Some years since, I was afflicted with an obstinate and dangerous disease, from which I was unable to obtain relief until I visited the Salt Sulphur Spring, near Union in the county of Monroe. The use of that water restored me to perfect health, which makes it my duty to state, at the request of the proprietors, the high opinion I have formed of its medicinal efficacy.

I consider the Salt Sulphur water eminently useful in all cases that require cathartic remedies, particularly such diseases of the liver and stomach as proceed from biliary obstructions. The operation upon the bowels is active, but not violent, cleansing effectually the alimentary canal, and promoting di-

gestion in a remarkable degree. The cathartic tendency of the water is so mild and certain, that the stomach and bowels are never oppressed or irritated; and whilst the healthy functions of the system are enabled to take their course, the suspended causes of disease are gradually worn away.

BRISCOE G. BALDWIN.

In the year 1812, I visited the Sweet and Sulphur Springs. I was then laboring under a nervous debility and extreme costiveness. I derived much benefit from the use of all those waters, but found none so strong and active as the Salt Sulphur. I concur in the opinion with many, that this is a valuable water, and should be more sought after.

Certified this 6th day of May 1823.

S. B. CHAPMAN.

SALT SULPHUR SPRINGS,
August 31, 1836.

Messrs. Erskine and Caruthers.

GENTLEMEN,

Intending to leave your excellent and perfectly arranged establishment to-morrow, on my return home, I cannot, however, do so without expressing my thanks to you for your polite attention to myself, (and I observed the same attention to others,) during my stay at the Salt Sulphur; and I have much pleasure in saying, that the use of the

Salt Sulphur Spring water has been eminently beneficial to me; for, prior to my coming here, I had been suffering for eighteen months from a total derangement of stomach from a long residence in a warm climate, (Bermuda,) say, bad bile, great acidity of stomach, and an overflow of mucus to the lungs; in short, I had the dyspepsia, with all its disagreeables, accompanied with debility of body.

Having tried the White Sulphur for ten days, without benefit, I came here, and in a week I found relief from all my complaints; but my medical adviser, who practised at the White, recommended me to try the Red Sulphur, notwithstanding my having written to him of my improved state—my pulse, for one thing, being reduced from 80 to 73 beats. I went to the Red, and stayed there eight days; my pulse rose on the third day to 82, the fifth day to 89, the sixth day to 96 and 100. I was obliged to be leeched, which reduced my pulse to 84. I had there headachs and dryness of tongue; so, on the ninth day in the morning, I returned to the Salt, where, on the fourth day, my pulse was again at 73, on the sixth day at 71, and has continued from that day to this, varying only from 71 to 72, night and morning.

I always counted my pulse in bed, when quiet, before drinking the water; for after drinking the Spring water, my pulse latterly came down to 68 beats. I was attentive to my diet, taking only stale bread or

dry toast, with scarcely any butter, two cups of tea with milk (no cream) for breakfast; my dinner was mutton, (*no gravy*,) with rice and stale bread, no vegetable—sometimes I took roast fowl, but no pudding or pies; at tea-time, I took one cup of tea and stale bread—no butter, I found grease so bad for me. The quantity of water taken by me was two half-pint tumblers at half past 5 o'clock in the morning in bed; one tumbler at 12 o'clock; sometimes one at 5 o'clock; and when in bed at night I took one more tumbler of the water, but if I wished to perspire a little more freely, I took two tumblers of it. I found the water determine gently to the bowels, rather than to the kidneys. What I took produced a full movement of the bowels. Before breakfast I walked a quarter of an hour; between breakfast and dinner I walked about five miles, often going to Union; between dinner and bed-time I think I walked about two miles more. I used to calculate about seven miles a day. For one hour after dinner I remained quiet in my room. I ate fruit once, and it gave me such a lesson I never tried it again. I am thus particular, for it may be of benefit to some one else next year, and you are quite welcome to shew this letter if you wish it.

Wishing you your health, not forgetting Mrs. Erskine,

I remain, gentlemen,

Your obedient servant,

W. H. BURNABY, *Baronet*,

SALT SULPHUR SPRINGS,
Sept. 22, 1839.

Messrs. Erskine and Caruthers.

I have been affected for five or six years with an obstinate disease of the liver and dyspepsia, and have visited nearly all the Springs in the mountains, without having experienced any material benefit, until I came to this place.

I have applied to some of the best physicians, without being relieved, but am happy to state that the Salt Sulphur water has had a most beneficial effect in removing many of the inconveniences attending my disease, insomuch that I am induced to carry a portion of it home with me.

Yours, most respectfully,
JOSEPH E. GARRATT.

P. S.—I am a resident of Knoxville, Frederick county, Maryland. J. E. G.

A true copy of the original.

ERSKINE & CARUTHERS.

ANALYSIS OF THE SALT SULPHUR SPRINGS.

BY PROF. WM. B. ROGERS.

Temperature variable from 49° to 56°. Solid matter procured by evaporation from 100 cubic inches, weighed after being dried at 212°, 81.41 grains.

Quantity of each solid ingredient in 100 cubic inches, estimated as perfectly free from water:

1. Sulphate of lime,	36.755	grains.
2. Sulphate of magnesia,	7.833	"
3. Sulphate of soda,	9.682	"
4. Carbonate of lime,	4.445	"
5. Carbonate of magnesia,	1.434	"
6. Chloride of magnesium,	0.116	"
7. Chloride of sodium,	0.683	"
8. Chloride of calcium,	0.025	"
9. Peroxide of iron, derived from proto-sulphate,	0.042	"
10. An azotised organic matter blended with sulphur, about	4	"
11. Earthy phosphates,	a trace.	
12. Iodine.		

Volume of each of the gases contained in a free state in 100 cubic inches:

Sulphuretted hydrogen,	1.10 to 1.50	cubic	inches.
Nitrogen,	2.05	"	"
Oxygen,	0.27	"	"
Carbonic acid,	5.75	"	"

"I enclose you a list of the ingredients in the Salt Sulphur water, which applies to the New as well as the Old Spring, the former having rather a smaller amount of saline matter in general, though in some ingredients surpassing the other. It has been very minutely analyzed, and is the first of all

the waters in which I was able to detect traces of iodine, which it contains in a larger amount than the Old Spring, and indeed most of the other waters in which I have been so fortunate as to discover this material."

In connection with the agency of iodine in the New Spring, I give insertion to the following interesting certificate:

UNION, MONROE COUNTY, VA.
15th December 1845.

During the summer of 1845 I was induced to try the Iodine Spring, at the Salt Sulphur Springs, in Monroe, for an obstinate and (as I then supposed) incurable eruption on the skin of one of my children. The disease first appeared at the age of three weeks, in the shape of small red spots upon the cheeks, succeeded very soon by little watery pimples, which rose and broke continually, but without healing. In a short time the affected parts increased in size as well as quantity, until they extended from the face to the head and neck, and thence over the entire body—presenting one uniform and consolidated appearance of disease over the whole surface. The neck, head and face discharged matter from the scabs, and the legs from the knee down.

For fourteen months I kept the child constantly under medical treatment, but without any perma-

nent benefit, or any prospect of recovery, until, at the instance of Dr. M——, (who was at that time residing at the Salt,) I was induced to make a trial of its waters. He represented the disease as a constitutional affection of the blood, which could not be relieved, and which ought not to be arrested very suddenly, but assured me, very confidently, that it would yield to nothing with so much certainty and success as to the external application of the Iodine water at the Salt. The child was bathed twice a day in the water, made gently tepid, of which it drank pretty copiously during the ceremony. About the fourth day there was an evident change for the better, and the child from that time continued to improve daily, until, at the expiration of six weeks, the sores had healed, the scabs had disappeared, the pimples and splotches had subsided, and the skin, for the first time for more than fourteen months, assumed a natural and healthy appearance.

I have no doubt, by remaining a few weeks longer, every vestige of the eruption would have been removed. But I consider the disease at this time as effectually conquered, and as having changed its type completely; indeed, the only indications ever visible, are an occasional roughness of the skin. As we used no medicine, except occasionally some mild cathartic, I feel no hesitation in ascribing all the results that I have stated to the effects of the Iodine water.

WM. G. CAPERTON.

CHAPTER XIII.

SWEET SPRINGS.

The Sweet Springs are situated on the head waters of Dunlap's creek, on the eastern border of Monroe county, 17 miles from the White Sulphur, and 22 from the Salt Sulphur, in a delightful valley, the air of which is pure and dry.

This vale, about five miles in length, and of an average of about half a mile in width, bounded on the north by the Alleghany, and on the south by the Sweet Springs mountain, may, without any disparagement of other beautiful valleys, be denominated the *Tempe* of Virginia. I first visited it in 1823, when elasticity of limbs, buoyancy of spirits, ardor of temperament were yet mine, and a gifted and accomplished woman roamed with me over those lovely hills, and from their summits admired its scenery from many points of view.

Ye halcyon days! how shall the aged man paint those scenes, associated with the dearest reminiscences of life? It feels to me like wandering solitary and pensive through the old church-yard at

Williamsburg, and by rubbing off the dust and moss of a century, trying to decipher the faint inscriptions on the tombstones. Vain, vain world! It is only twenty-seven years ago since I was first at this rural watering-place, amidst the *elite* of Virginia, the Carolinas, and Maryland; when beauty, wit, elegance and grace characterized the fair visiters, and honor, refinement, urbanity and disinterestedness distinguished the male portion of the assemblage.

The Sweet Springs, the White Sulphur and the Warm Springs were then the only places of any note in that region, and the White and Sweet were on a par as to extent of accommodations—if indeed a parcel of rude huts, indifferent beds, and the plainest possible fare, can be called accommodation. At each place there were about 250 visiters, such as I have described them; yet, how few are now remaining! I recollect half a dozen—possibly there may be a score. Yet this is life, and this is the fleeting phantom we cling to with so much tenacity.

But let me not cast a shade over the cheerfulness of my readers by such reflections. I would rather see them cheerful and happy. I cannot accompany them now in long and pleasant walks, over sunny hills and shaven meadows, through lovely glens, by sweetbriar bushes and clustering hawthorns, along purling streams and limpid rivulets; but they can take my little, unpretending book as the companion

of their rambles, and when they gain the summit of one of those conical hills that look down upon the valley, let them cast an eye over the rich alluvial fields, covered with extensive and luxuriant crops of indian corn—one of the most agreeable objects the sight can rest on, with its long, deep green leaves, gemmed with dew and glistening in the morning sun; and let them behold the vast meadow studded densely with stacks of new-mown hay, and hear the kine lowing amid the exuberance of rich pasturage, and the pretty lambs bleating for their dams that are busily engaged on the hill's brow, cropping the low but sweet blue-grass, and let them quaff in the sweet odors of the hawthorn blossoms—and after they have admired all these beauties of opening summer, let them linger among and revel amidst those innocent delights.

And now, when autumn's first breath shall have seared the earlier foliage, let them look again through the vista, along the dense forests that invest the magnificent ridge called Peters' mountain, and view amidst the sombre foliage of the oak, pine and hemlock, at intervals, the gay-looking dogwood, most gorgeous in its decay, like a lovely maiden having the flush of consumption on her damask cheek. When they have seen these, and the majestic poplars, like *pontiffs* in their robes, let them now trace their course along the rippling stream, and admire the lowly *cardinal* flower in his vestment of scarlet,

and look into the stream and see the speckled mountain trout disporting in the cold and lucid waters—and after they have seen these, and innumerable other pleasant objects, they may say, the author of this little book has been here before us—he has enjoyed all these rural delights!

Let us now return from our excursions, and take a nearer view of the immediate vicinity of the Springs and the improvements that encompass them.

The most striking and important object that meets the eye is the majestic HOTEL, of admirable proportions and *magnificent distances*. A lame man, like myself, would require a carriage to go from one end of it to the other. It is 250 feet long by 48 wide, and, including the basement, is three stories high. It has three grand porticoes with piazzas intervening, and altogether has a most imposing appearance. The basement is divided into kitchens, and various departments for domestic purposes, with a bar-room and two reception-rooms, one for ladies and the other for gentlemen. The middle floor has a dining-room 160 feet by 48, a ball-room 40 by 48, and a drawing-room 40 by 48 feet. In the third story there are thirty-six bed-rooms with an entry between them—they are about 14 feet square.

Such are the dimensions and such the proportions of this vast edifice, built of brick, with walls as thick as those of a fort, and piers as massive as its buttresses. It looks as if it would take a broadside

of Paixhan guns to batter it down. And yet, what big guns would scarcely do, the little, silent, trickling drops of rain will effect ere many years, if the property on which it stands remains much longer before the court of appeals. It was still unfinished when it passed from the hands of its enterprising founder, and it is now fast dilapidating for want of a permanent owner. The property has, for several years, been annually rented out at auction by the sheriff. For the next season, (1851,) it is to be in the hands of Messrs. C. J. Beirne and Thos. Johnson, enterprising, active, estimable men, who will no doubt manage it in the best manner for their own interest and the comfort of their guests.

The other buildings are frame cottages and cabins, connected or isolated, spread over the umbrageous and extensive lawn. These, with the hotel, are sufficient to accommodate 250 persons. The trees, like those at the White Sulphur, are the remains of the primitive forest, and are truly magnificent—oaks, elms, sugar maple, hickory, &c. The late proprietor planted some locust and other trees, that also ornament the place.

This is the gayest of all the Mineral Springs. It is the last place visited before the company are thinking of home. Any little reserve that may have interfered with social intercourse at the White and other Sulphur Springs has been obliterated by the acquaintance gradually formed at those places,

and here they meet again as old friends glad to renew their agreeable associations. Restored to health, in buoyant spirits, exhilarated by this invigorating water, their animal spirits are raised to the highest degree of excitation, and the merry laugh, the song and dance testify their happiness.

If some ascetic being, who thinks piety consists in a long face, were to look in upon their mirth, he would think them fit candidates for *Tartarus*. Is man so constituted by nature that he must be a fanatic on some subject? It is not so. The truly benevolent man is never a fanatic or a bigot. He loves God's creatures because they are God's creatures. He does not tie down all mankind with the little cord that binds the bigot's pinched up, puckered, ricketty person. He looks with pleasure on the young enjoying those harmless amusements appropriate to their age, and delights in seeing all his fellow-beings cheerful and happy. I would rather take my chance for Heaven with such a man, than with the self-sufficient Pharisee, who has prayers on his lips and wormwood in his heart, as if God were the little, envious, malignant thing he is himself.

Let me now approach the noble fountain—second only, if second, in volume of water to the Warm Springs. The stream which supplies the drinking water rises from the earth, and is confined in an oblong octagon reservoir about seven feet deep. The

surplus water discharges itself into the gentlemen's bath, and forms a magnificent spout, under which the bathers place themselves and enjoy indescribable luxury. The temperature of the Spring is about 74½°, and that of the Baths 73½°.

The *Baths* are two in number, of equal dimensions, about 20 feet square—with dressing rooms and fire-places. They are under the same roof, but separated by a brick wall such as might defy *Pyramus* and *Thisbe*, and having entrances on opposite sides of the building.

If a German Doctor had such fountains as these to describe, his enthusiasm would carry him to the third heaven. He would imagine his body was immersed in celestial ether, and his head resting on the bosom of an angel. From the bottom of this pool, as also at the Warm Springs, arise innumerable bubbles of the size of a pea. They emerge from the pebbles with a whiz, and rise in myriads to the surface if they meet with no impediment. They seem to be chasing each other from their fairy world, as if in merry sport, and laughing at their own antics. When the bather places himself among them they strike him all over his body—pat, pat, pat. It is said these sounds are so distinct that an Irishman, once immersed in their midst, thought they were calling him away to the land of spirits, and, filled with terror, rushed from the pool. I, however, think my countrymen too gallant to exhi-

bit any such timidity, and do not believe one word of the story, although told by one of themselves. Another version, and one more probable, is, that he fancied the "good people" were hitting him with young potatoes—an operation at which he was vastly amused.

And thou, Sir Francis Head! I would fain invoke a few corruscations from thy genius, to tell my readers how the old may become young, and the young become *Narcissuses*, or *Dëiopeias*, by bathing in these pellucid waters, but there is too little poetry in my composition for such an attempt.

All fancy being laid aside, however, there is, there can be nothing on the habitable globe superior to these Baths, in their beautiful clearness and their invigorating effects on the human frame, when it is not laboring under any actual organic lesion. The pools are five feet deep, yet so clear is the water that you would not suppose it two feet. It reminded me of the Bahama Shoals, but it is infinitely clearer.

When a person to whose case this water is adapted comes out, after a suitable period of immersion—say from five to ten minutes, according to circumstances—in the act of rubbing dry, his skin becomes as red as a perpetual rose, and he feels as if he were in truth not treading on earth. It is, however, necessary to this favorable effect that there should be no important lesion or inflammatory action of the internal organs. The use of the Sweet

Spring water, valuable as it is when properly applied, is in many cases extremely hazardous. It may be deemed unfortunate that there is no reliable analysis of this water to guide us; but experience, running back many years, enables me to form, I trust, a tolerably correct estimate of its virtues. There can be no doubt that its distinguishing characteristic is carbonic acid gas. By means of this it holds in solution the several alkaline ingredients it contains, and this also imparts to it that brisk, champagne-like sparkling which it exhibits. This, too, is the source of that exhilarating quality for which it is so remarkable.

The temperature, as has already been remarked, is about 74½°. This and the sub-acid taste render it by no means agreeable on first acquaintance, but a little perseverance on the part of the drinker will result in his tolerating it, or, as is almost invariably the case, his becoming exceedingly fond of it.

The condition of the system in which this water is indicated is *debility*, *pure debility*, unaccompanied by organic lesion or inflammation. Let it be well impressed on the mind of the visiter, that if there be a *congested* condition of any vital organ, this water is improperly used. Let me suppose that a Southern man with an engorged liver were to drink this water and plunge into its tempting bath, what would be the almost certain consequence? Chill, fever, effusion, death. This opinion is not lightly

given. I have to give a lamentable illustration of such a result in treating of the Red Sweet, the action of which is analogous to the Sweet, though still more inappropriate in such cases as that to which I have alluded. Need I then say, that in bilious temperaments, a course of Sulphur waters is desirable as a preparation to both these tonic agents? I hope my remarks on the Hot Springs and White and Salt Sulphur have given the reader some useful instruction in this regard. But, it is not engorged or torpid liver alone that will not admit of these waters. No matter what organ is involved, if it be in a congested, inflamed or even irritated condition, these waters are not suited.

Is there a case of chlorosis dependent on *anemia*, from want of nutritive food, or from some mental malady, or abnormal functions—then the Sweet Springs water externally and internally is invaluable. Is there a case of amenorrhœa, usually the accompaniment of the former, dependent on the same causes—this water is the proper remedy. Have excessive labor and care, or anxiety of mind, or youthful imprudence, reduced the *strong man* to the timid, nervous, melancholy, despondent condition of hysteria—let him hasten to the Sweet Springs.

These waters quicken the circulation, impart tonicity and vigor to the system, excite the animal passions, cheer the spirits, and inspire the mind with pleasurable sensations. Aged persons espe-

cially will find vigor and elasticity at the bottom of this noble fountain. A man who could have an opportunity of daily plunging into the Sweet or Red Sweet bath might live to the fabled age of the crow. The former venerable owner of the latter place takes this plunge every day, winter and summer, and is approaching the patriarchal age of fourscore years.

But let the sanguineous, plethoric, apoplectic temperament, whether male or female, be cautious in the use of these waters. Females, who may by any probability be in a *delicate condition*, or who are liable to severe periodical hæmorrhages, should not use the water internally or by bathing. I have already intimated the forms of uterine disease in which they can be used with advantage; but in every abnormal condition of this organ, medical advice is necessary, and should never be dispensed with.

In certain cases of *dyspepsia*, and in some nephritic diseases, this water is extremely valuable.

In tuberculous conditions of the lungs, in bronchitis, in organic diseases of the heart, in engorgement of the liver or spleen, in dropsical effusions of the thorax or abdomen, in jaundice, in hæmoptysis, in menorrhagia, in hæmorrhoids, in idiopathic paralysis, in all idiopathic affections of the brain, these waters are *contra-indicated.*

In that protean disease—neuralgia—they are of-

ten useful, and sometimes hurtful. In sprains, dislocations, old injuries, in many cases of rheumatism, and in cases of erratic gout, they are valuable. In want of power, caused by early indiscretions or the inordinate indulgence of sensual pleasure, these waters, and, *a fortiori*, the Red Sweet, are perhaps *unrivalled.*

There is one practice prevailing at this place and the Red Sweet Springs, so pernicious, that it cannot be too severely reprobated: I allude to the potations of mint julap and other spirituous mixtures after coming from the bath.

Incalculable injury may be done by this abuse, and I have little doubt that many cases, said to have been injured by this water and bath, may be fairly traced to mint julaps. The persons who indulge in this insidious mixture are usually gross, plethoric, sensual men, who of all others should be most afraid of such indulgences, and least need them. A feeble, *anemic* person, such as I have described in a former paragraph, may, with great advantage, take a weak mint julap and a cracker, or a cup of coffee or chocolate, or a glass of boiled milk, or any other nourishment that suits the individual case; but the gross, sanguineous bather needs no such stimulus. It will be well if the water itself does not excite him overmuch.

As I shall offer some remarks on the hours and manner of bathing at the thermal waters, it is

scarcely necessary to trouble the invalid here with details. An empty stomach, a comfortable condition of the feelings, the absence of anything like chilliness of surface, prompt, fearless and brief immersion, a vigorous application of the towels by the bather and attendant—these are the requisites towards a successful experiment.

If, on being thus rubbed, the system remains chilled, and the surface shews goose-skin, and the spirits are depressed and the heart is oppressed, then let the bather avoid a repetition. In such a case a mint julap, or a cup of hot tea or coffee, may do him good, but farther experiment is hazardous.

I feel I should be doing injustice were I to omit mention of a modest, retiring, but skilful and experienced gentleman, Dr. Tyndal, the resident physician at the Sweet Springs. He has for the last 25 years been a constant observer of the action of all the mineral waters in this region, but especially of this, the Red Sweet and the White, Salt and Red Sulphur Springs. His advice, therefore, may be valuable to the visiter of these neighboring Springs, and I am only performing a duty in calling attention to his claims.

CHAPTER XIV.

RED SWEET SPRINGS.

At a distance of one mile from the Sweet Springs, on the road leading to the White Sulphur, are the Red Sweet Springs, first owned and improved by Philip Rogers, Esq., subsequently purchased and still farther improved by John R. Sampson, Esq., and recently sold by him to Messrs. C. Bias and Samuel V. Gatewood.

The Red Sweet Spring is a chalybeate, and a most powerful agent in cases that admit a tonic treatment. This is an advantage which this establishment possesses over its neighbor, having, besides, the same kind of water which is so abundant at the "Sweet Springs." The acidulous or "sweet" waters at both establishments, seem to be so much alike, that there can be no essential difference between them, and as they are situated in an abundant region and on the great thoroughfare connecting Eastern Virginia with its trans-Alleghany territory, we hope that, notwithstanding their proximity, they may do a good business.

The situation of these Springs is a beautiful one, overlooking one of the most fertile and best cultivated farms in Virginia. The celebrated Beaverdam falls are on this farm, and about a mile and a half from the Springs.

The original name of these Springs was "Red Springs," but, in consequence of mistakes frequently having occurred in the direction of letters to this place and the Red Sulphur, the name at the head of this article has been adopted.

The main building here is of frame, and judiciously designed as regards convenience, but being thrown across the valley, as in the case of the Sweet Springs, it is destructive of the natural beauty of the locality. It contains thirty comfortable chambers, a ball-room, dining-room and bar-room, and has two galleries of two stories, extending the whole length, communicating at intervals by open passages, in which there are stairs leading to both stories. Nowhere have I seen a more convenient arrangement than this. It has but one fault, and that is, that the double rooms communicate lengthwise, instead of enjoying the advantage of both porticoes and the delightful draught that passes through the valley. There is a beautiful range of cottages running through the lawn, which, having been last year extended very considerably, this place can now take in about 120 persons.

The great Red Springs, which are most relied

upon for bathing, issues from a limestone stratum, covered to a considerable depth by a soft porous stone, apparently a deposit from the Sweet Springs stream, which seems to have once taken that direction. There are three Springs, of which the upper and boldest seems to differ in composition and temperature but very little from the Sweet Springs. The two others close by, and separated from each other by a thin partition of rock, differ materially in the quantity of iron and temperature from the first, the temperature of those being 78½°, while that is only 73°. All, together, would probably discharge 250 gallons in a minute.

The bathing-house is a large building, probably 40 feet square, divided into two apartments as at the Sweet Springs, each apartment being furnished with dressing-rooms, &c. The water is conveyed by trunks to the reservoirs, and, by reducing the depth of the basin to four feet, it affords the finest spout imaginable. After swimming about for two or three minutes, it was my custom to place myself under this noble stream, and let it fall on the chest and shoulders. I never was tempted to remain in *longer* than five minutes; I then got upon the platform, took in hand a towel and dried the head and neck, while a servant was engaged in rubbing the body with all his might. In two minutes, when the water is likely to suit, the skin becomes as red as crimson under this operation, and the person feels as

if he could jump over the moon. I am disposed to think that *some* cases in which there is no re-action, are attributable to bad rubbing, and permitting the body to get chilled. I would strongly recommend to the proprietor to have two rubbers instead of one—a man and a small boy for the gentlemen, and a maid and a little girl for the ladies.

After getting out of the bath, the person should stand on a platform a few inches elevated from the floor. In this should be some grooves to carry off the moisture from the feet; the junior rubber should then kneel down, and with a coarse towel dry perfectly the legs and feet, while the bather and aid are employed on the head and trunk. With one rubber the feet are apt to be left too long wet, and the circulation is thereby delayed from the inferior capillaries.

A few paces below the hotel there was a large and very pleasant bath similar to the Sweet Springs; it was, however, but little used, most persons preferring the higher temperature of the Red Spring. The difference is very perceptible to the feelings. Both were delightful after the shock of the plunge was over, which in the Red Spring water is slight. My experience of the two baths, which I used for the purpose of experiment, caused me to give a decided preference to the Red Springs bath. I am disposed, however, to think that its advantage lies more in the higher temperature than in the carbon-

ate of iron it contains, though I can readily believe that this property may increase its tonic power. Whether it be so or not as applied to the skin, nineteen out of twenty will think so. As a drinking water, its tonic property is acknowledged, and where such an agent is desirable, it is not to be surpassed on the habitable globe.

The house over the bath near the hotel is now removed, and it is converted into an open pool some twenty feet in diameter. Kept clear of vegetable growth, it would be an agreeable object, but such was not its condition when I saw it last.

The following is an extract of a letter received from the late proprietor:

"RED SWEET SPRINGS,
"*Alleghany Co.*, Feb. 16, 1846.

"I have tested the relative temperatures of the Springs by a thermometer purchased of Mr. Randolph in Richmond, made by McAlister of Philadelphia, and find them to be as follows: The Upper Spring, which discharges much the greater portion of the water, I find to be 77°. The next, or Middle Spring, 80°, and the Lower, or nearest the bath-house, 79°. These three Springs discharge three hundred and fifteen gallons of water per minute, by measurement this day made, and will be blended into one stream, and then divided between the two baths, which will make their temperature

about 78°. I have also tested the two Springs near the hotel, both of which stand at 75°. The temperature of the pool is 74°, and this difference is caused by several little limestone springs emptying into it. This pool discharges two hundred and twenty gallons per minute.

"I remain, dear sir,

"Your most ob't serv't,

"JNO. R. SAMPSON.

"P. S.—Below you will find a copy of the analysis by Prof. Rogers, taken from the copy recorded in my register at the Red Springs.

"J. R. SAMPSON."

1st. Solid matter procured by evaporation from 100 cubic inches, weighed after being greatly dried at 112°, 40.76. A portion of this is combined water.

2d. Quantity of each solid ingredient estimated as perfectly free from water. In 100 cubic inches:

Sulphate of lime, - -	14.233
Sulphate of magnesia, - -	3.107
Sulphate of soda, - -	1.400
Carbonate of lime, - -	9.411
Carbonate of magnesia, - -	1.166
Chloride of sodium, - -	0.037
Chloride of magnesium, - -	0.680
Chloride calcium, - -	0.010
Susquioxide of iron, - -	0.320

Organic matter in small quantities.

Iodine, a mere trace.

The iron is no doubt dissolved in the water as a carbonate.

3d. Volume of each of the gases contained in a free state in 100 cubic inches of the water:

Carbonic acid,	-	46.10 cubic inches.
Nitrogen,	- -	2.57 " "
Oxygen,	- -	.20 " "

Sulphuretted hydrogen, a trace too small to be measured.

4th. Composition of 100 cubic inches of the mixed gases rising in bubbles in the Spring:

Nitrogen, - - -	62.5
Carbonic acid, - - -	37.5

It seems entirely unnecessary to review again the class of diseases to which these waters are applicable, being almost identical with the Sweet Springs. It is proper, however, to remark, that as a drinking water the Red Sweet offers superior advantages in many cases.

The great difficulty in the administration of preparations of iron is, that after a time they disagree with and irritate the stomach. Now this water holding the iron dissolved in carbonic acid, this difficulty is obviated, and the water may, with a little management, be used for an indefinite time.

In the year 1845, I was a visiter at these Springs for several weeks, during which time I was enabled

to make numerous observations on the effects of the water, which generally proved roborant, exhilarating, stimulating. I witnessed one case, however, in which the use of this water proved promptly fatal, and I mention it as a caution to others who may be similarly affected.

One day, as I left the bath, I was met and accosted by two gentlemen who had just arrived from the White Sulphur. One of them was about 60 years of age, vigorous and healthy. His friend, however, about 45, had a very different appearance. He was as yellow as an orange, with bile apparently diffused all through his system, the abdomen tumid, and the hand presented cold and corrugated. They asked if the bath was vacant, and I answered in the affirmative, asking the invalid if he meant to use it. He replied that he had come with that intention. I told him it was the last place he should have come to, for that the water was evidently not adapted to his case. He replied, however, that he was especially urged by a medical man at the White Sulphur, to use the water internally and externally. They passed on—the invalid took the bath, his system did not react, chill followed, fever supervened, coma soon succeeded, and in two or three days after, we followed him to the grave.

Now, I do not mean to assert that this man would, under the best circumstances, have recovered, and become a healthy man; but I do say that he did

not have a fair chance for his life; and I think there is a fair probability that had he been sent to the Hot Springs, the result might have been similar to that in the case of Mr. Newsom—recorded in my notice of the Hot Springs.

The boarding establishment at this favorite Spring was admirably kept by Mr. Sampson; it is to be hoped that the gentlemen who succeed him will give equal satisfaction.

After the above article was written, the following communication was received from the new proprietors:

MOUNTAIN GROVE, Jan. 6, 1851.

Dr. Wm. Burke.

DEAR SIR,

We received yours of the 26th of December, requesting some information in regard to the Red Sweet Springs and its present proprietors, &c., &c.

In answer to your enquiries, we have to state that the Red Sweet Springs were purchased of Mr. Sampson on the 28th of September last, for the sum of $40,000, by C. Bias of Memphis, Tennessee, and Samuel V. Gatewood of Bath county, Virginia. The property consists of the Springs and improvements, and between sixteen and seventeen hundred acres of land.

The improvements contemplated at present are, a cottage containing eight rooms, adjoining the one built by Mr. Sampson last season, and of the same style as those on Baltimore Row at the White Sulphur Springs, and now under contract. The next improvement is to be a large and extensive building 150 feet long by 32 feet wide, two stories high, the basement to be for a dining-room, and the second story to be fitted up in handsome style for a ball-room and parlors; the building to correspond with the hotel. We intend to fit up and finish handsomely a billiard-room, to improve the ten-pin alley by laying down another track, and finish the house off handsomely. We will have a reading-room furnished with the most prominent papers published in the United States.

These are the improvements contemplated for the ensuing season. The number of chambers will be about 100, the number of visiters that can be comfortably accommodated about 175. We contemplate extending and enlarging, so as to meet the increasing demand from year to year. We expect a daily line of stages from Callaghan's up Dunlap's creek to the Red Sweet, as well as the daily line from Charlottesville *via* White Sulphur Springs.

The character of the improvements made by Mr. Sampson last season was very excellent, neat and comfortable, consisting of a handsome cottage with eight rooms, and a large two story house with double

porches, containing many rooms—the number we do not recollect at present.

We have not your book referred to, or we would be better prepared to give you more satisfaction.

Very respectfully,

Your obedient servants,

BIAS & GATEWOOD.

CHAPTER XV.

THE SKIN.

Before I enter upon the thermal waters, I desire to say a few words on that beautiful organ, which, above all others, distinguishes man from the inferior animal creation, and which in lovely woman frequently attains such exquisite perfection as to place her second only to the angels.

The skin being one of the great safety-valves of the body, though perhaps the least regarded by the mass of mankind, and especially by that portion yclept "the Anglo-Saxon race," is amongst the most important organs of the human body.

Had nature required of the kidneys to secrete all the impurities of the circulation, they would be inadequate to perform the labor, at least without vastly more power than they now possess; she has, therefore, in her wisdom, invested the external covering of the body and the mucous surfaces of the internal organs with an exhalant apparatus that frees the blood from those serous portions that are no longer necessary for the body, and from an excess

of carbon and other matters that might deteriorate its quality, just as the absorbent system appears to have been intended to introduce new and alterative materials into the system for its comfort and sustenance. How deeply the skin sympathises in all important lesions of the great organs of the body, is known even to ordinary observers, yet it *has* never received that consideration to which it is entitled. The march of improvement, however, is onward, and we should never despair of effecting a reform so obviously important as that of cleanliness.

In our Southern country especially, there is an urgent necessity for frequent ablutions, owing to the relaxed state of the system, produced by intense heat, and the consequent evaporations of the serous portion of the blood through the superficial covering of the body. In such a condition of things, the balance between the excreting functions of the skin and kidneys is destroyed, and the former has to perform a duty, which eventually overpowers its energies; its action becomes morbid, and it is no longer able to resist either the impulse from within, or the sudden depression from cold to which it is exposed from without, by extraordinary and sudden vicissitudes of temperature.

We know, however, from the experience of Eastern nations, that like all other hygienic principles, the salutary practice of bathing is liable to abuse.

Carried to excess, and accompanied by the use of powerful narcotics, it is pernicious to the physical, mental and moral energies. It should then be resorted to, not exclusively as a luxury, but as a means of cleansing the skin from accumulated impurities, and encouraging a just proportion of the fluids to the capillary circulation.

The manly exercise of swimming, when it can be practised, cannot be too strongly recommended. In the palmy days of Rome, the river Tiber was not permitted to roll its waters to the sea neglected and unheeded. It was the constant practice of the Roman citizens to disport on its bosom, after they had anointed their bodies as a protection against the coldness of the water. Of its efficacy in procuring sleep we are assured by the satirist:

"Ter uncti
Transnanto Tiberim somno quibus opus est alto."

With regard to the wealthy, who are able to afford all the conveniences of bathing, if they do not avail themselves of their advantages, it is their own fault, and they deserve no sympathy; but it is otherwise with persons of moderate circumstances living in cities, and workers in manufactories. Their health demands the care of the public authorities and of their employers. In the manufactories of this country, which have almost all extensive water power, how easy would it be to pro-

vide a large bathing chamber, in which all the laborers, male and female, should be required to bathe at least once a week. It would be easy to raise the temperature of the water to about 85 or 90° Fahrenheit.

In an establishment giving employment to two hundred persons, five cents a week deducted from the pay of each would amply pay the proprietor; and in a mere *pecuniary* point of view would be a saving to the laborers, who may thereby be saved from many ailments that cause loss of time. But I would not stop here: I would recommend to the legislatures, whenever application was made for an act of incorporation by a manufacturing company, to insist on a proviso obliging the corporators to provide a convenience such as I have described, and to insist on its use. Whenever temperance shall have become universal, and conveniences for bathing shall have been furnished to the great mass of the inhabitants of cities, and the more enlightened and opulent portion of the community will have, by their own example, induced the poorer class to adopt this great hygienic practice, we may look for an advance in the average of human life and human *morals*, which now might seem unattainable.

Without entering into any very minute detail of the constituents of the skin, I may briefly say, that it consists of two *strata* or layers—the scarf skin and the true or sensitive skin.

The former is an exudation from the blood-vessels to the surface of the latter, which, by aggregation and nourishment from the same source, becomes organized and continuous, and is constantly being produced to compensate for the loss of friction on its surface. It is composed of albumen, and it is therefore that alkalies and soaps are used to purify it. These ablutions leaving only the new scarf skin, the sensibility of the skin is increased, but when they are neglected, on the contrary, it is greatly diminished.

Of all cosmetics the fair sex can use, the most efficient and harmless is good plain soap, which deterges the skin by combining with the oily matter, and at the same time softens the scaly scarf and dislodges it.

It is in the deepest stratum of this epidermis that is lodged that coloring matter which, by its degrees of shade, gives characteristic color to the various races and nations of the earth, from the black negro to the fairest Anglo-Saxon. In the same individual, there is a considerable difference in the intensity of this pigment in summer and winter, being deeper in the former, and more blanched in the latter. To have a beautiful complexion, the ladies must guard it from the influence of hot fires, burning winds and great changes of temperature; but the best security against the latter would be the daily use of the shower-bath.

The great object of the scarf skin is the protection of the true skin from bruises and all manner of injuries, and to this it is beautifully adapted by being moulded exactly to correspond with all its irregularities.

The nails also, those beautiful appendages of the human hand, deserve the care of the fair sex, for in truth, they are often unmistakable evidences of negligent habits. They require no other treatment than, after washing, to rub the extremity of the scarf back from the crescent at their upper end, and to keep them from too close contact with the teeth. To see a beautiful young lady biting her nails is execrable. She deserves a husband that chews tobacco.

It might be interesting to the reader to take a view of the formation of the *dermis*, but it would lead me away from my immediate object, which is simply to direct attention to the important functions of this emunctory of the body. It is divided into two layers—the papillary and corium. The former is the sensitive, and the latter the defensive layer. It is in the surface of the sensitive skin that the blood is distributed by small arteries passing through the *corium*. Here they discharge their freight into the reticulated vessels called capillaries, which, having diffused it all over the surface, and through their porous texture, give egress to oxygen and nutritive portions of the blood, and gathering up the

exhausted and carbonated materials, throw them into the veins, which conduct the now impure stream to the right cavities of the heart. Hence it is forced through an artery into the capillaries of the lungs, where it is oxygenated, and sends off its carbonic acid through the permeable vessels to be discharged from the lungs with the expired air, and is itself carried back in a purified state by special veins to the left chamber of the heart. About one-fourth of the venous blood, however, is distributed to the liver, and yields material for the bile before it arrives at the right side of the heart. The great filters of the venous blood are the lungs and liver, while the kidneys and skin are the emunctories of the arterial blood.

Certain emotions of the mind, by bringing the arterial blood rapidly to the surface, produce blushing, and again the depressing passions, by repelling the blood upon the internal organs, produce extreme pallor. The yellow hue of jaundice is caused by the mingling of the color of the bile with the blood, and that of chlorosis also, by deranged function of the liver, and by deficiency and poverty of the blood.

I shall next take a cursory view of the *perspiratory apparatus*, some idea of which is necessary towards appreciating those medicinal agents of which I shall soon have to treat. It consists of small tubes passing from the exterior scarf skin through the two

inner layers, and terminating in the corium. In their passage, they form a spiral coil, and on arriving in the interior of the corium, they are twisted into a little globular ball, known as the perspiratory gland. Its mouth on the scarf skin is called a *pore*.

It is estimated by Dr. Erasmus Wilson, to whose admirable work on the skin I am indebted for these details, that each coiled tube and its gland being one-fourth of an inch long, and there being on a square inch of the palm of the hand 3528 pores, there is on one square inch a length of tube equal to 882 inches, or 73½ feet. He takes 2800 as an average of the pores on a square inch of the whole surface. The number of square inches of surface in a man of ordinary size is 2500; the number of pores, therefore, 7,000,000, and the number of inches of perspiratory tube 1,750,000, or nearly 28 miles.

In a healthy condition of the body, perspiration, though not perceptible, is nevertheless always progressing, and this is styled *insensible* perspiration; but from increased exertion or the exaltation of temperature by any means, it becomes *sensible*, and frequently copious.

There are two functions performed by perspiration—one, to regulate the temperature, and the other, to remove from the system noxious compounds. It is estimated that 8 grains of perspiration are exhaled by the skin in a minute, equal to 33 ounces in 24 hours—about 1000 lbs. in a year.

An analysis of one hundred parts of the solid matter of perspiration gave the following results:

Osmazone combined with common salt,	48	parts.
Lactic acid salts, with osmazone, -	29	"
Animal matter, with vitriolic salts, -	21	"
Calcareous salts, - - -	2	"
	100	"

To these may be added carbonic acid gas, ammonia and iron, and, in rare instances, copper.

When perspiration is checked, the whole weight of separating these matters falls upon the liver, kidneys and lungs—a task to which they cannot long be subjected without inducing disease in one or all.

The skin performs yet another function—that of absorption, by which fluid substances are taken into the circulation. It is proper to bear this also in mind, since we will find that in bathing no inconsiderable portion of mineral water may thus be introduced into the system.

Besides the perspiratory tubes, there are oil tubes and glands for secreting an unctuous fluid or sebaceous substance for lubricating the skin, and giving it softness and brilliancy.

Passing over, for the present, the effects of food, exercise and clothing on the skin, I proceed to the effect of bathing and ablution as a hygienic agent.

From the sketch that has been given of the scarf skin, it is readily understood that it is liable to have incrustations formed upon it by the matter perspired, the product of the oil-glands and the aggregated dirt from the atmosphere. If these remain, the pores will be closed, perspiration obstructed, and all the proper functions of the skin suspended, and, as I have already observed, an undue and unnatural action will fall upon the internal organs. They must imperfectly eliminate the poisonous substances thrown back upon them; and the almost inevitable consequence will be, that the weak organ will give evidences of disease, and that consumption, renal or hepatic disease, or diarrhœa may supervene.

Water and soap are the means by which we may get rid of those impurities, and they are both, fortunately, within the reach of almost every one; and for the purpose of mere ablution, a basin of water and a sponge or towel are all-sufficient. This should be practised at least once in 24 hours, and with a degree of temperature of the water varying, according to circumstances, from tepid to cold. But this, which is well so far as it goes, is not sufficient for securing the hygienic advantages of bathing, and for these we must have recourse to more copious affusion.

The most convenient and delightful method of domestic bathing is the shower bath. Modern im-

provement enables a man to have the apparatus in his chamber or dressing-room, to which he may step directly from his bed, and be afterwards rubbed dry before his fire in winter. In former times, it was not uncommon to have this fixture in a damp basement or out-house, and it may readily be imagined that as much injury as benefit was likely to accrue from its use. If the person desirous to establish this habit will commence with tepid water, and gradually use a lower temperature until he reaches the cold, he will become so disciplined to the shock as scarcely to regard it, and the succeeding glow is so exhilarating and bracing, that he is rendered uncomfortable if by any chance he misses for a day its luxury. This I can affirm from my own experience. Whatever may be the mode of bathing, one consideration is all-important, and that is, the establishment of a prompt and vigorous reaction.

This reaction is thus produced. When the surface is suddenly subjected to the shock of cold water, the capillaries contract, and throw the blood rapidly on the internal organs. The nervous system is stimulated and compels a vigorous action of the heart and arteries in sending it back to the surface, a glow follows, the skin looks red, the respiration is easy, the spirits are buoyant, and the whole man is invigorated.

But if, on the contrary, goose-skin supervenes,

and chilliness and yawning succeed, and an uneasy respiration, and a sinking at the heart—then let the bather beware how he repeats the experiment.

When these last symptoms appear, they indicate that the system is not in a suitable condition to bear the action of cold water—which may be owing either to diseased function or actual lesion of one or more organs. When the constitution is feeble, all extremes should be avoided; and a bath too cold or too warm may do irremediable injury, while one carefully adapted to the powers of the system would refresh and invigorate it.

Judicious advice, therefore, is of primary importance to the invalid in using the bath, either above or below the temperature of the surface of the body; and it cannot be too earnestly impressed upon him, that he must regulate the time of remaining in the bath according to his physical energies. Five minutes is time long enough for a feeble person, and few will be benefitted by remaining longer than fifteen minutes. To aid in reaction, the bather himself should work hard with his towel, if he is able, while the attendant briskly rubs the feet and lower limbs perfectly dry.

The temperate bath, ranging from 75 to 85°, and the tepid bath, from 85 to 95°, act as sedatives to the nervous system, diminishing the number of pulsations of the heart, and disposing to sleep.

The warm bath, ranging from 95 to 98°, accord-

ing to the condition of the patient, may be sedative or stimulating.

The hot bath, ranging from 98 to 106°, is decidedly stimulant.

Having made all the necessary preliminary remarks, I now enter on the consideration of the thermal waters, and shall begin with those known as the *Warm Springs*.

CHAPTER XVI.

WARM SPRINGS.

These Springs are situated in a beautiful but narrow valley in the county of Bath, between two ranges of lofty mountains, running parallel from N. E. to S. W., lying about 170 miles nearly west from Richmond, and on the direct turnpike road leading through Staunton, and by the Hot and White Sulphur Springs, to Guyandotte on the Ohio river.

The views from many points of the Warm Springs mountain, especially from the *gap* where the road crosses, and from *the rock*, 2700 feet above tide-water—are much celebrated for their grandeur.

The *rock* is no less celebrated for a feat of horsemanship performed by the late and much-lamented Mrs. C——n, who rode her spirited but docile horse to its summit, and in her saddle saluted the glorious orb of day emerging from the distant horizon. It is said that her daughter has recently performed the same hazardous exploit; and I can well believe it, from the grace and skill with which she manages her steed.

The grounds are broken in upon by the public road, which renders an ornamental and appropriate arrangement of them impracticable. Had it not been for this difficulty, and some others equally embarrassing, the correct taste of the proprietor would have rendered it all that it is capable of being made. As matters are, he has shewn good taste in embellishing the place with rare and beautiful flowers and shrubbery.

But there is a charm beyond landscape here—it is the charm of society, without which Paradise itself were a desert, of little interest, and less comfort and happiness. What is isolated man? If he has genius, it is unappreciated. If he has noble sentiments, they spring up only to be buried again in his own bosom. If he has lofty aspirations, they are but day-dreams, that vanish almost as soon as formed, and leave no fruit but regrets. His feelings become as contracted as his association, and even his patriotism is confined within the four walls that enclose himself.

It is therefore not well for man to be alone, and at no time is cheerful society more desirable to him than as an invalid in pursuit of health. Nowhere in the mountains is society on a more agreeable footing than I observed it here. Dr. Brockenbrough, the proprietor, one of the best specimens of the "gentleman of the old school," and his venerable and elegant lady, reside at the Springs, and with

their beautiful and fascinating grand-daughters, give tone and charm to the delightful association.

Were I a poet, I would endeavor to portray the oldest of those lovely beings, as she descends the mountain of a bright summer morning, seated on her panting thorough-bred palfrey, after a long and rapid ride, her hair flowing down her shoulders and bedewed with liquid gems that fall from the trees, as she passes underneath their dense foliage. Or I would essay to describe her in the ball-room, with that hair combed up in the severest style of classical simplicity. How few heads could bear such a test! It is the style of Mrs. Siddons in the character of the "Tragic Muse," and no brow but one beaming with intellect dare assume it.

The younger, I was informed by a lady, was the Naiad of the fountain, disporting in its lucid waters, and dazzling the eyes of the beholder.

> "Then to the flood she rushed; the parted flood
> Its lovely guest with closing waves received,
> And every beauty softening, every grace
> Flushing anew, a mellow lustre shed;
> As shines the lily through the opal mild;
> Or as the rose amid the morning dew,
> Fresh from Aurora's hand more sweetly glows."

But there was one yet—Mrs. R., whose manners seemed to fascinate all who approached her. She sung with much feeling and expression, and I was especially pleased with her "Home." By the way,

her sailor had just returned from a long cruise, and I can imagine that this circumstance detracted nothing from her appreciation of the sentiment of that beautiful song.

Such are the domestic materials—the *nucleus*, as it were, of society at the Warm Springs.

These Springs have long been famed for their mineral and medicinal qualities, having been resorted to by invalids from the tide-water country for seventy years past. The land was patented to the enterprising *Lewis* family, by Governor Fauquier, in the year 1760. Some years elapsed thereafter before there was even a wagon road over the Warm Springs mountain. The traces of a warehouse are still visible at the eastern base of the mountain, where the wagons were unloaded, and their contents transferred to pack-horses, and distributed throughout the Western country, this side of the Ohio river.

Many tales are related by the older inhabitants of this part of the country, of the discovery and use made of those waters by the Indians. One of the most beautiful is the following legend given to Mr. Otis of Boston, as derived from the old bath-keeper, and extracted from his article in the Southern Literary Messenger of March 1838:

"A young Indian, more than two centuries ago, was coming from the Western valley of the great Appalachian mountains, towards the waters of the

East, that opened into the beautiful bay whose branches touch the strands of some of the mightiest marts of a nation that was not then in existence. He had never trodden that path before, and nothing but pride of youth, which would not brook that his brethren of other tribes should triumph over him as their inferior in adventure, had sustained his manly heart so far; for he had come, since the rising sun first touched that day the mighty peaks of the Alleghanies, from the vales that lay at their feet on the West. He was going to carry the voice and vote of a powerful nation to the council-fire that was kindling on the banks of the great water, and he felt shame at the recurrence of the idea that the place of the young Appalachian Leopard could be vacant. But the night winds beat coldly around him, and the way was dark. There had been rains, and the earth was damp and swampy; and no grass, or fern, or heather, was at hand with which to make a bed in the bosom of the valley where he stood. He had not strength to climb the near range of mountains that drew up their summits before, as if to shut out all hopes that he could accomplish his ardent desire. Weary, dispirited, and ready to despair, he came suddenly upon an open space among the low underwood that covered the valley where he was wandering, and upon looking narrowly he observed that it was filled with water. He could see the clear reflection of the bright even-

ing star that was just declining to her rest, and that was peeping into the fountain,

> 'Like a bride full of blushes, just lingering to take
> A last look in her mirror, at night, ere she goes.'

"By this translucent reflection, he could perceive that the water was clear, and its depth he could discern by the pebbles that glistened in the star-light from the bottom. He saw, too, that the water was continually flowing off, and supplying a stream that ran rippling away among the roots of the oaks that surrounded the spot; and as he stooped to taste the liquid element, he found it warm, as if inviting him to relax his chilled limbs by bathing in its tepid bosom.

"He laid aside his bow and quiver, unstrung his pouch from his brawny shoulder, took off his moccasins, and plunged in. A new life invigorated his wearied spirit; new strength seemed given to his almost rigid nerves; he swam, he dived, he lay prostrate upon the genial waves in a sort of dreaming ecstacy of delight; and when the first dawn of day broke over the rock-crowned hill, at the foot of which the Spring of Strength lay enshrined, the young Leopard came forth from his watery couch, and strode proudly up the mountain 'where path there was none.'

"He was a 'young giant rejoicing to run his

course.' Full of new fire and vigor, he manfully sped his way; and upon the eve of that day, when the chiefs and the sons of chiefs were seated around the solemn council-fire, no one of them all was found more graceful in address, more commanding in manner, more pleasing in look, and sagacious in policy, than the young *Appalachian Leopard* who bathed in the '*Spring of Strength.*'"

With regard to the use of the baths at the *Warm Springs*, it may be safely remarked, that the pleasure and voluptuousness of bathing in them are such as, in a great measure, to supersede the idea of their more valuable properties as medicinal waters; on the principle, perhaps, that remedies grateful to the palate are never so efficacious to the patient as those which are more nauseous. It is not pretended that these waters act as a panacea in all cases, or that they may not be injudiciously used, but many cases might be cited in which the Warm Springs bath, especially when resorted to for some weeks, and aided by the internal use of the water, has been attended with the happiest effects.

In *dyspepsia* of long standing, there have been some remarkable instances of permanent cure from a daily bath and half a dozen glasses of water drunk at the fountain, when persisted in for six or seven weeks.

In *chronic rheumatism* and *paralytic affections*, similar effects have been produced by the same course;

but it is the misfortune of those who labor under chronic diseases, that they are prone to expect relief in a short time, and become impatient under those slow and alterative remedies that can alone restore them to health. Such complaints, in nine cases out of ten, yield only to a judicious course of treatment, *long persisted in.* There is no remedy yet discovered by the medical faculty, which will *at once* cure them; and it is no rash opinion that the Warm Spring bath, with the water taken internally, assisted by proper regimen, moderate exercise and pure air, will have more efficacy in many chronic diseases than all the drugs that can be prescribed by the faculty. The temperature of these medicinal waters affords a gentle stimulus to the surface, and causes it to cast off its impurities, while it disposes the skin to absorb a certain portion of the fluid, with the substances held in solution by it. This, in itself, is of great benefit to the invalid, while to a person in health, the most pleasurable and soothing sensations are excited, particularly when friction is employed on coming out of the bath.

The following analysis of the water of the Warm Springs was made in the year 1835, by Professor Rogers, of the University of Virginia, and is, doubtless, very nearly correct:

"The large bath is an octagon, 38 feet in diameter; its area is 1163.77 feet. The ordinary depth

being five feet," (it can be increased to six;) "the cubic capacity is 5818.86 feet, or 43,532.32 gallons; notwithstanding *the leaks*, this quantity of water will flow into the reservoir in one hour. The average temperature of the bath is 98 degrees Fahrenheit.

"The gas which rises in the bath consistsof nitrogen, with minute quantities of sulphuretted hydrogen and carbonic acid. Besides this gas, each gallon of water contains 4.5 cubic inches of gas, consisting of—

Nitrogen, - -	3.25	cubic inches.
Sulphur. hydrogen, -	0.25	do.
Carbonic acid, -	1.00	do.

"The saline contents of one gallon of the water are as follows:

Muriate of lime, - -	3.968
Sulphate of magnesia, (Epsom salts,)	9.984
Carbonate of lime, - -	4.288
Sulphate of lime, - -	5.466
And a trace of soda, - -	0.000
	23.706"

From this account it appears that these waters contain neutral salts and various gases, which act as a gentle aperient, diuretic and diaphoretic. The large proportion of Epsom salts (nearly one-half) is not only ascertained by analysis, but by the for-

mation of the beautiful crystals from the spray, as the water falls over the flood-gate. This salt, doubtless, gives the water its aperient quality, while the carbonic acid and sulphuretted hydrogen give tone and vigor to the stomach. In Europe it is found that the tepid waters tend more to strengthen the digestive organs than those of a low temperature, more especially in gouty patients; but the Warm Spring loses nothing of its aperient quality by being cooled in closely-stopped bottles, and it becomes more palatable to many by that process.

With regard to bathing, some precautions are necessary and proper. No person in a high fever, or under a high inflammatory diathesis, should use the bath; when the inflammatory symptoms have been reduced by evacuants and depletion, he can resort to it with advantage, and will find it to soothe him. From experience it has been ascertained that it is injudicious to go into the bath after a full meal. In the morning, before breakfast, when the stomach is empty, or an hour before dinner, is the best time to bathe. Some persons prefer taking the bath just before going to bed, and it generally produces a gentle perspiration, followed by refreshing sleep, if none or a very light supper has been taken.

Besides the large octagonal bath, there has lately been erected a "Lady's Bath," neatly furnished and of equal depth, and there is now also a "Spout Bath." The "Drinking Spring" is also beautifully

improved and inviting. It is situated between the two great "Baths." I regret to perceive that the Chalybeate Spring, which formerly was seen here, has disappeared. It no doubt sunk through the porous earth, and having been a feeble stream, was lost in the great volume of the adjacent waters.

Dr. Brockenbrough is entitled to the entire credit of another addition to the bathing advantages of this establishment. Alongside the gentlemen's bath, and as a wing to the building, he has erected a room containing a cold plunging bath, which is plentifully supplied with spring water from the neighboring hills. This enables the bather to use the Russian plan. After spending some 15 or 20 minutes in the warm pool, enjoying a luxury similar to that so eloquently described by Dr. Granville, the bather ascends a flight of steps and plunges into the cold reservoir, of a temperature ranging from 60 to 70°. As may be supposed, the shock is great, but the reaction is prompt, energetic and decided. I say this from personal experience; but, nevertheless, I would not advise a person of feeble or exhausted constitution to use it. Above all, it should not be attempted by a patient suffering from any internal organic disease.

The flow of water from the Spring and baths is estimated at six thousand gallons a minute, and forms a stream sufficient to drive the wheel of a large mill.

The bath in Europe to which the Warm Spring is most similar is Wildbad; I therefore extract from Dr. Granville's work on the German Spa, some passages that may interest and benefit the visiter of the former:

"After descending a few steps from the dressing-room into the bath-room, I walked over the warm, soft sand to the farthest end of the bath, and then laid myself down near the principal Spring, resting my head on a clean wooden pillow. The soothing effect of the water, as it came over me up to the throat, transparent like the brightest gem or aqua-marine, soft, genially warm, and gently murmuring, I shall never forget. Millions of bubbles of gas rose from the sand, and played around me, quivering through the lucid water as they ascended, and bursting at the surface, to be succeeded by others. The sensation produced by these, as many of them, with their tremulous motion, just *effleuraient* the surface of the body, like the much-vaunted titillation in animal magnetism, is not to be described. It partakes at once of tranquillity and exhilaration—of the ecstatic state of a devotee, blended with the repose of an opium-eater. The head is calm, the heart is calm, every sense is calm; yet there is neither drowsiness, stupefaction nor numbness; for every feeling is freshened, and the memory of worldly pleasures keen and sharp. But the operations of the moral as well as the physical man are under

the spell of some powerfully tranquillizing agent. It is the human tempest lulled into all the delicious playings of the ocean's after-waves. From such a position I willingly would never have stirred. To prolong its delicious effects, what would I not have given? But the Bad-meister appeared at the top of the steps of the farthest door, and warned me to eschew the danger of my situation; for there is danger even in such pleasures as these, if greatly prolonged.

"The temperature of the water at Wildbad is its chief and predominant merit. This has continued the same throughout a long succession of years; and I confess, at once, that I am led, after mature consideration of the subject, both in this case and in the cases of all the Warm Mineral Springs I have visited, to ascribe to *temperature* the principal effects which the water produces on the human constitution. But it is not the *thermometrical* temperature to which I allude, when I proclaim such an opinion; it is to the *caloricity* of the water, which is not to be measured by Reaumur or Fahrenheit; a principle imparted by nature to the Springs in question, from sources which as yet have escaped detection, but which, at no distant period, will probably be found connected with electrical forces, and therefore not appreciable by our ordinary instrumen[illegible] of thermometrical mensuration. Here, at Wildbad, the range of temperature in the water,

according to Fahrenheit, is the same as that which has been assigned as the range of heat in the human body, when in its healthy state. On the water, therefore, being applied to the human body, the sensations produced are as agreeable as when we enter a bath of ordinary water, charged with the same degree of heat. But there comparison terminates, and all the delightful sensations produced by the mineral bath are looked for in vain in the ordinary bath. Why so?

"This very circumstance, of the Wildbad water being naturally of that degree of heat which is best suited to the human body, renders it preferable to those warm springs which require either spontaneous refrigeration or the mixture of cold water, previously to their being employed, as at Wiesbaden, Baden Baden, Gastein, Töeplitz and Carlsbad. It is preferable because the patient actually bathes in the very stream as it rises from the earth, and catches the proffered boon of nature at its birth. In fact he bathes in a natural warm river. How inferior to this must be a tub or slipper bath, into which the warm water, previously fashioned into a right degree of heat, is conveyed through pipes and from reservoirs! But there is, in my estimation, a still greater superiority on the side of the Wildbad Spring, as a salutary bath, over every other—no matter how well managed the latter be; and that is, the simple fact that, whereas in all the

other baths the temperature of the water in which the patient is immersed, must and does progressively diminish, in the course of the hour, or half hour even, during which the operation of bathing lasts—that of the Wildbad bath is uninterruptedly the same, for the water continues in its never-varying natural condition.

"Yet, with all these striking advantages of the Wildbad water, would it be credited that some over-nice, over-scrupulous invalids (I need not repeat which was the country named to me as that whence they came,) have preferred bathing in tubs, and have had such contrivances purposely constructed for their use? As my facetious informant observed at the time—'A bath of this kind cannot be called a bath in the Wildbad, but only a bath in a tub of Wildbad water.'

"The bathing together, when that can be done under circumstances so favorable as at Wildbad, and with the decorum which is there observed, is a source of entertainment conducive to health. People talk of the effect of baths, either from what they have heard, or from their own experience; and the sick receive fresh spirits from hearing others descant on the good result produced by the water upon themselves. The bathing together in this natural river-head, and the bathing in slippers or tubs, are to each other, in point of health, as a walk with a pleasant companion in the open air is to sitting in a locked-up chamber.

"The Wildbad waters are often taken internally, in conjunction with the baths. They have no other sensible effect than to increase transpiration and the action of the kidneys. While using the baths for any arthritic complaint, a considerable sediment is observed in the increased secretion of those organs. In obstinate gouty and rheumatic complaints, lameness, contraction of limbs, partial paralytic affections and loss of power in the lower extremities, the effects of the Wildbad baths have been surprising, and have been known for centuries. On these points I conversed with and interrogated several of the visiters whom I happened to meet at the hotel I resided in, and whom I always found ready to enter into their cases, when I announced myself to them as a physician. Their testimony, and the reference to their own cases, were quite conclusive.

"After the very first time of using the Wildbad, the sleep at night becomes more tranquil, although an agreeable listlessness is experienced by day, which is followed by a lively motion of the muscles. Dr. Kerner, who is an excellent authority in respect to the Wildbad Spa, is loud in his praises of the bath, as a most powerful agent in removing *particular* obstructions accompanied by *chlorosis* or green sickness. He contends that it brings the blood into a more brisk circulation, and gives to it the necessary degree of fluidity. For the same reason he

warns such as are subject to a flux of blood from the bowels, or spitting of blood, or are prone to abortion, to abstain from these baths; many patients of that class have been sacrificed to the improper recommendation of the Wildbad, by physicians ignorant of its real power.

"In many obstinate diseases of the skin, in dropsies caused by repressed eruptions or indurated liver, and in all diseases brought on by checked perspiration, the use of the Wildbad cannot be too strongly commended. 'They serve, indeed, (concludes Dr. Kerner,) almost to make the old young again; while younger persons, who have become prematurely old, owing to exhaustion, and those who are exhausted by close application and incessant fatigue, rise out of these baths with new strength and youth. They are, on the other hand, injurious in feverish conditions of the body, and in dropsies arising from inflammation brought on by chronic derangement, or stoppages of the circulation, owing to a disorganization of one or more of the important viscera; and they should never be used merely in sport by the blooming youth of either sex.'

"The late inspector of the Wildbad baths, Dr. Kaiser, used to relate the case of a Darmstadt officer, a Monsieur Berchthold, twenty-six years of age, who had become perfectly lame in consequence of a fall, which had produced an affection of the

right hip, the precise nature of which was never ascertained. Four months after the accident, being able to walk without crutches, but always with the most violent pain, he was sent to Wiesbaden, whence he returned without the slightest improvement. For five months he could not tread upon his heel; and when, thirteen months after the fall, he was able to do so, it caused him the most dreadful sufferings; so that at every step his head was drawn down almost to his hip. In this pitiable and distressed condition he went to Wildbad. The first bath had no effect upon him; the second caused him some pain in the region of the loins; the third increased the pain; but the seventh he was unable to endure—so excessive was the pain it caused. He was taken out of the bath and placed in bed. When he had been there but a few minutes, he felt an indescribable, painful sense of coldness in the impaired limb, which was followed by a copious warm perspiration, particularly around the hips. He now found that he could move his foot freely; and after resting in bed for an hour, he was able to leave it without a stick, and free from pain. Herr Berchthold now walks as straight and upright as if nothing had happened.

"None should be deterred from the further use of these baths because old pains are, at first, revived by them; for such is a sign that the water is acting upon the diseased parts. The smallest scars, which

can often be scarcely perceived, or old cuts in the finger, which have long been forgotten, begin to smart and revive during the use of these baths. Very often pains like these, which are frequently severe, and often aggravations of the disease, are tokens of the beginning of a cure."

* "It is to be remembered that a majority of the bathers experience the 'reaction fever' *(fievre de reaction)* in the course of treatment. The period of its occurrence is uncertain, and often it is so slight as to pass almost unobserved by the patient. This, however, is the critical moment precursory of a cure. This state of irritation seldom lasts more than a few days, and generally disappears without any internal medicine. This reaction is precisely that which ought to inspire the greatest hopes in the patient, as it announces a change in his constitution and a victory over his malady. The disagreeable sensations, however, which he feels, often put him out of humor with the baths, especially if old pains and discomforts, that had ceased, now re-appear, which they often do. He becomes impatient and morose when he is revisited by rheumatic pains, neuralgia, gout, hæmorrhoids, &c., which he had thought to be extinct. Such reaction, however, is indispensable towards the victory of nature and the baths over the disease for which they were employed. The waters of Wildbad, indeed, are remarkable for this

*Johnson.

re-production of old disorders, at the moment they are eradicating the more recent ones.

"It is to be remarked, that it is not in all persons that the reaction above alluded to takes place. In many there is a gradual amelioration of health, without any perturbation of the constitution, and only marked by an increased action in the functions of the skin and kidneys—sometimes of the bowels.

"On the other hand, (says Professor Hiern) where the malady is obstinate, there is a greater struggle in the constitution, attended with considerable fever, disorder of the secretions, irritation of the nervous system, full pulse, restless nights, distressing dreams, loss of appetite, dry hot skin, occasional hæmorrhoidal discharges, purging, gouty attacks, cutaneous eruptions, &c., which precede a restoration to health.

"These are trials which require the fortitude of the patient and the vigilance of the physician. It is not to be wondered at, that, when they occur in the stranger, and especially in the English invalid, who has little confidence in the foreign practitioner, and finds himself ill in a secluded valley like that of Wildbad, great alarm should be produced and much prejudice raised against the baths and waters of the place. The worst of it is, that a similar train of disorders may arise from an injudicious use of the baths, and where no salutary crisis is the result.

"Cutaneous eruptions are frequent consequences of the Wildbad waters, and are considered salutary. The kidneys, next to the skin, shew the greatest sensibility to the action of these waters. In some people (especially where the waters are drunk as well as bathed in) a most copious and clear secretion is produced; but this is seldom a critical or salutary discharge. It is when the secretion from the kidneys is deep-colored, sedimentous, and exhaling a peculiar odor, especially in gouty subjects, that benefit may be confidently anticipated. The bowels are seldom acted on by these waters—more frequently, indeed, constipation is the result, requiring aperient medicine, both before and during the course. The hæmorrhoidal and monthly periods are promoted by the waters, thus relieving plethoric fulness of the abdominal organs."

I have given these copious extracts from the two most distinguished authorities on the waters of Wildbad, because they are almost strictly applicable to this celebrated Spring, and because relief may be expected in the same class of diseases, and similar precautions should be observed in their use.

A man may trifle, in some degree, with *drinking* mineral waters; but bathing in them is a very different thing. With regard to the temperature, it is very true that a plain bath of 96° may be considered a sedative, soothing and calming the system;

but when the water is charged with saline matter and active gases, it becomes a powerful stimulant to the sentient extremities of the cutaneous nerves, and that stimulus is extended to the arterial system, and lungs, liver, heart, brain—all feel the impetus. Now there are many constitutions that would be overpowered by such a state of excitement, and the consequence would almost inevitably be the engorgement of some important organ, which might directly lead to the lesion of its structure. It is for this reason that I feel bound to caution patients against too much belief in what Dr. Johnson calls "reaction fever."

When such a fever, or any other unpleasant symptoms supervene, it will be more prudent to abstain from the bath, to open the bowels freely, and to see that the tongue is clean and an index of a favorable condition of the alimentary canal, and then to return again cautiously to the water. These *crises* are things not always to be recognised, and if mistaken for actual disagreement of the waters, may do incalculable mischief. I can say, at least, that I have never seen any decided case of such fever when the water was performing its appropriate function in the restoration of the invalid, and that I can assent to the *Bad-Sturm* only so far as to acknowledge that in gout and rheumatism, and in gun-shot wounds, and in perhaps many other conditions of the muscular tissue, an aggravation of pain may

precede a cure, and in affections of the glands and mucous membrane an increased secretion and discharge of morbid matter is indispensable.

As from the waters of Wildbad, so from the Warm Springs may relief be obtained in the following diseases: Chronic rheumatism and gout, and many diseases resulting from their latent existence; affections of the spinal marrow, and its consequences, paralysis, hemiplegia, following suppressed evacuations from hæmorrhoids or uterine derangements, or metastasis of gout or rheumatism, or poisons—such as fumes of lead—may be relieved, but plethoric persons should be cautious in their use. Affections of the joints, lumbago, sciatica, contractions and morbid conditions of the bones, ought to be benefited.

The whole class of cutaneous diseases, such as herpes, chronic pemphigus, urticaria, acne, pityriasis, are the diseases in which much benefit might reasonably be expected from the water, and perhaps, more from this than any other, in consequence of the sulphuretted hydrogen it contains. Scrofula, and glandular affections generally, may be relieved, and in order to promote this result, it might be well to use at the same time the water internally, and to combine with it the water of the Alum Spring in the vicinity.

It does appear to me that a spirit of mutual accommodation on the part of these establishments

towards the visiters of each, may be made productive of great advantage to both. It is a beautiful and interesting drive over the Warm Spring mountain, and one or two omnibuses at a moderate charge, would be kept constantly in demand during the season. The suggestion is thrown out for what it is worth.

The counter-indications, or diseases not benefited but aggravated, are: Plethora, tendency to apoplexy, to hæmorrhage of any kind, or inflammations of any of the internal organs, debility, catarrh of the kidneys or bladder, chronic diarrhœa, diabetes, internal abscess, phthisis, dropsies, scirrhus or cancer, biliary and urinary calculi, organic disease of the heart, varicose veins, hypochondriasis and hysteria, with debility, idiopathic epilepsy, chorea, monomania, insanity.

Women with the catamenia, or in a state of pregnancy, should be forbidden to bathe in this or any of the mineral baths of this region.

In closing my notice of the Warm Springs, it is gratifying to me to be able to bear testimony to the comfortable accommodation prepared for guests. It is limited, not being more than sufficient for about 130 persons; but, for its extent, it is fully equal to any other establishment in the mountains. The man would be indeed unreasonable, who would not be content with the fare and attendance at this place.

CHAPTER XVII.

HOT SPRINGS.

The Hot Springs, the property of Dr. Thomas Goode, are situated in Bath county, five miles west of the Warm Springs, at the intersection of two narrow valleys or gorges formed by the adjacent mountains.

There is nothing very remarkable in the natural scenery, and no attempt has been made to beautify it by art. It is, nevertheless, capable of great improvement. To appreciate this capacity it is necessary to see it from different points of view, an advantage that may be easily obtained by ascending the pretty hills that encompass it. The public road now runs through the valley and spoils it; but as all the land is owned by the same proprietor, it could be so changed as to obviate this unseemliness.

The accommodations for guests consist of a frame building, some 200 feet long, and two stories high. In this there is a neat parlor, dining-room, bar-room, and numerous chambers. It has a por-

tico running the whole length, which affords a pleasant promenade and place for lounging. Along the road are several cabins, some of wood, and others brick; and in the bottom of the valley, near the baths, are also several cabins of the same character. They are all very comfortable, the greatest drawback being their distance from the dining-room. The ascent from the baths and lower cabins, being about 40 feet, is trying to a lame or feeble person, and indeed there are many who should not encounter it, if it may possibly be avoided.

All the buildings here will accommodate about 120 persons with tolerable comfort, and I believe 140 have been taken in.

As regards the fare at the Hot Springs, I feel that I should not be doing justice, were I not to declare that it is excellent. No man, at his private table, can have finer bread; the pastry is also very fine; the milk is rich, the tea and coffee very good; the meats are good and well cooked; the table is neat; the knives and forks clean. In fine, economy and good management are very perceptible in all the household arrangements.

The visiters being for a great part invalids, there is but little gaiety; yet there are but few who complain of *ennui*.

The baths—six in number—are in a line extending from east to west about three hundred yards, and on the edge of a flat separated by a stream of

water from the still lower marshy ground in its rear.

The hot pool, or boiler, as it is usually termed, (106° Fahrenheit,) is the most easterly in the range. It is covered by a very large and badly contrived frame house, having a partition running longitudinally through it, which extends through the pool and forms separate baths and sweat-rooms for ladies and gentlemen. Next to this is a small cabin containing a foot-bath, *pro bono publico*—then the Ladies' Hot Spout Bath, (106° Fahrenheit,) into which runs a large *douche* through a bored log, with a fall of about 5½ feet. Attached to this is a sort of ante-room and two or three dressing-rooms. Next comes the Gentlemen's Hot Spout, of equal temperature, and in every respect similar to the Ladies' Bath. Passing by a range of cabins, you next reach a hexagon or octagon building containing a very fine pool, which, however, is now kept closed, and the water conveyed by pipes into a lower building, into which it flows by two beautiful spouts, and at a temperature of 100° F.

Bathing in common, not being practised here, when the maximum company of the season is in attendance, there is some delay and difficulty in getting a bath at those hours usually preferred—from 11 A. M. to 2 P. M. Ladies and gentlemen have frequently to wait in the ante-room and take their turn. This is more especially the case at the

Hot Spouts, which are the baths in most demand. Nature has been, in an extraordinary degree, bountiful in the article of water at this place. Instead of six baths, with a proper arrangement, and very little more cost than has been expended on the present buildings, there might have been a range of bathing accommodation, extending from one extreme to the other, containing 50 baths of all temperatures from 54 to 106°—swimming, plunging, *douche*, shower—to suit the fancies or necessities of all.

It is really a pity that such advantages should be comparatively lost, when we consider the vast amount of good that might accrue to a very large class of invalids from the extension of boarding and bathing accommodations at this place. I feel perfectly satisfied, that if the Hot Springs were so improved as to take in 300 boarders, with all the appurtenances of comfort and convenience, it would average that number for three months—say from the 15th of June to the 15th of September.

Last summer I saw the foundation of a large swimming bath, 18 feet square, which I was told would be completed by the next season. It is intended, I understand, that the temperature shall be about 76°. Such a bath would be a great acquisition. At this place shower-baths may also be arranged with little additional cost. As the facilities for travel progress towards all those Springs, they

will attract more and more of public attention, and in a few years, where there are now hundreds, there will probably then be thousands.

On a former occasion, I took views relative to the Hot Springs similar to those now expressed. I was misunderstood by the proprietor, and looked upon as endorsing ill-natured charges against him. I had no such intention. My whole object in any allusion I made to his administration of his establishment, was, to bring into prominent view its capability of extension, and the benefits that would result to invalids from placing it in the best situation to promote their comfort and restoration to health. It gives me pleasure to have an opportunity of making this public disavowal of a purpose ascribed to me on the appearance of the second edition of my former work.

I have in my possession several letters furnished me by Dr. Goode, which he has at various times received from visiters and patients, all of which are couched in the kindest terms of gratitude for his attentions and skilful treatment. It is not deemed necessary to embody them in this book, and I only allude to the subject at all, because I have been mixed up with the idle gossip that has annoyed and perhaps temporarily injured that respectable gentleman.

I now pass on to the consideration of the virtues of the Hot Springs as curative agents, and I trust

that I shall be able to advance some views calculated to benefit those who may honor them with their consideration.

The following is the analysis as given by Professor Wm. B. Rogers:

Hot Springs.—The free gas in *boiler* contained in 100 cubic inches:

Nitrogen, 1.16; oxygen, 0.20; total, 7.40.*

There is also a trace of hydrogen in the water, but not a sufficient quantity to admit of determination.

The saline ingredients in 64 cubic inches are as follows:

Carbonate of lime, - -	4.82 grs.
Sulphate of lime, - -	1.52
Sulphate of soda, - -	0.92
Sulphate of magnesia, -	0.57
Muriate of soda, - -	0.37
Silica, - - -	0.05
Total, -	8.25

This analysis is by no means satisfactory, yet it is the best I can at this time command. Fortunately, however, we have the benefit of a long experience in the use of this water to guide us. The present proprietor—a respectable and skilful physician—has

*I confess I do not understand this, and suppose there is some error in the expression of it.

resided here about 20 years, in which time he has had unusual advantages in observing the agency of these waters in a vast number of cases. He has been industrious in noting many of the most important, and after having them duly certified by the patients, has published them in a little pamphlet, to be found at his establishment. I shall avail myself of some of them for the purpose of fortifying the opinions I express relative to the action of the waters.

If, as I had occasion to remark of the Warm Springs, a mineral water of a temperature of the human surface be a stimulant, so much more may this be looked for in a water of a temperature considerably above that point. We may then assume that such is the character of the Hot Springs, and that this is the principle on which it acts. If tranquilization subsequently occurs, as surely it will, if the experiment succeed, it will be because the organs involved have been restored to a normal function by the antecedent stimulation. Accordingly, we find that while these waters are useful in torpid conditions of the system, they are to be avoided in all forms of disease tending to the *acute*.

On the subjects connected with the use of thermal waters, there are many useful observations and suggestions in the works of Drs. Granville and Johnson, from whom I have already made extracts, and

in a book published by Dr. Peez, resident physician at Wiesbaden. The latter, indeed, is an enthusiast, and in some degree resembles the puffer of a quack nostrum; but we may gather many valuable hints from the bombast in which he involves his undoubted learning and experience. I shall not scruple, therefore, to avail myself of the labors of those gentlemen, giving them this general credit for whatever I extract from them.

It may serve to amuse the reader to give him a specimen of ridiculous transcendental jargon, which has also been noticed by Dr. Johnson.

In attempting to explain the action of the water, Peez says: "These and similar observations, many of which I shall mention in another place, constrain us to admit the existence *of a peculiar vital principle in mineral waters, communicating to that of the body either an attractive faculty more consonant with the medicinal component parts of the water, or acting by itself already as a healing power upon the diseased organism.* According to this hitherto hypothetically presumed presence of a *vital* principle in mineral waters, it may be comprehended how the chemical component parts, as they are called, (which, if mixed with common water, would be far less efficacious,) are the more readily assimilated, the more powerfully the tendency of nature to effect the removal of the cause of disease, is excited by that vital principle.

"This enlivening principle, on the other hand, acquires, in return, by means of the mineral water and its component parts, the property of uniting with the organism. Thus it is evident why all mineral waters, when drunk, besides their individual effect, produce by means of their constituent principles, a *general* sanative effect, which is sufficiently proved by experience.

"The partial effect of the medicinal component parts of mineral waters is pushed back, as it were, retreating under the ægis of a general power which directly excites the autocrasy of the animated animal body, and *compels it to act according to the particular quality of the mineral spring determined by its component parts.*"

With better sense, and in more intelligible language, he remarks: "As in the external world, all that is to exist develops itself from a liquid form, so must also the principle of nutrition be changed into it, in order to be rendered assimilable, and all substances become unfit for supporting life, must quit the state of rigidity, and return to liquid, before they can be drawn out of the region of organism. Thus water *evidently acts in many diseases as a sanative means*, and nature *avails* itself of it in many dispositions of the body in which the humors have a tendency to grow rigid and condense.

"But how important soever the task may be that nature assigns to this element, we cannot attri-

bute to common water the powerful efficacy we discover in thermal waters. Experience has decided this long since, and taught us that it does not *possess* this healing power; that it is insignificant, nay, even hurtful in many chronic diseases, whilst thermal waters only can effect a cure.

"As for the choice of a proper degree of temperature of baths, its importance has been acknowledged long since; but we cannot discover in it the principal cause of the efficacy of mineral baths; for if the cure were to be attributed to it, journeys to bathing-places would be superfluous, because patients might at their own homes much more easily command the proper degree of temperature of their baths than in bathing-places.

"But what does experience tell us of the value of a proper choice of temperature of baths in general? It tells us, that baths heated to a proper degree are the most powerful means to produce equilibrium in the abnormously exalted or depressed activity of the nervous system in the different organs of the body; that they check the immoderately accelerated circulation of blood, unless this circumstance should be owing to an acute inflammation, or some organic defect. But experience does not tell us that *common* tepid baths effect such great cures as we see by the use of thermal baths, frequently very deficient in component parts. It tells us, on the contrary, that natural mineral baths,

when used for some time, in many diseases, produce an excitation really critical, frequently raised to a febrile state, which, in most cases, is the precursor of speedy recovery.

"When patients begin to bathe, some individuals exhibit certain phenomena, which we must be acquainted with, if they are not to excite great uneasiness. Such are, propensity to sleep, giddiness, oppression of the chest, pain in the eyes, eruptions on the skin, weariness, vertigo, lowness of spirits.

"These phenomena may be prevented in some measure, and their duration shortened when they already have made their appearance, if, what should be a general rule, the patient use the precaution not to remain long in the first baths."

The best prevention will be, to take care that the alimentary canal is well evacuated by some proper mercurial combination and by injections of the warm mineral water. The latter is a means I here take occasion to recommend with earnestness as one of the most important adjuncts towards a cure. In almost every case in which the water is the proper remedy, this use of it is indicated.

This is well understood at the German Spas, and it is to be hoped that here also invalids will have all the benefits to be derived from it. But it may be as well to say, that they will generally have to depend on themselves for the necessary apparatus. The proprietor does not undertake to provide nurses,

nor the conveniences for nursing, and this it is well for the public to understand.

"The more encouraging symptoms are the following: After the first baths the organism is excited to form depositions upon the skin. The dry skin grows softer and moist, a prickling is felt on the surface of the body, a slight eruption ensues, attended with a sensible determination of hypochondria, hysteria or rheumatic suffering.

"The cutaneous transpiration is, in general, a little more encouraged. In some individuals the stools are retarded proportionably to the increase of the cutaneous or urinary secretions; sometimes, however, the functions of the skin and intestines are set free at the same time.

"Ulcers are by this cutaneous excitation made to discharge, for a short time, a greater quantity of matter; the ulcers of others become clean and granulating. Eruptions grow more violent before they are completely cured. Most tetters secrete a greater quantity of lymph, and these phenomena are sometimes of longer and sometimes of shorter duration.

"Rheumatic and gouty pains are aggravated, stiffness increases, and walking becomes more difficult. These exacerbations generally last from four to ten days, and the strong and sanguineous are the most liable to them. It is often proper to deplete in such cases by cupping and purging, and the bathing should be discontinued until the excitement is removed.

"Even persons who never had suffered rheumatic pains, feel slight touches of that disease when taking the bath. These attacks were, however, invariable harbingers of a speedy and radical cure.

"The majority of bathers experience an increase of appetite; sleep grows profounder and more refreshing; many are overcome with a propensity to sleep after the bath, and this should not be resisted unless it is attended with headach, redness of the face, giddiness and a quick pulse—symptoms that require to be watched and counteracted."

At the Hot Springs, as at Wiesbaden, all the above symptoms and effects may be observed in the course of a season, and we may enumerate pretty much the same catalogues of diseases in which the waters of the former are useful or contra-indicated.

In the first class are, *complaints having their seat in the abdominal organs, and especially in the biliary apparatus*—indicated by acidity, eructations, furred tongue, troubled digestion, loss of appetite, sense of tightness or oppression about the stomach and bowels after food, costiveness or relaxed bowels, congestion about the liver, with or without enlargement of that organ, hypochondriasis and hysteria, hæmorrhoids and their consequences, irritations about the kidneys and bladder, enlarged spleen, jaundice, sequences of residence in tropical climates.

The various forms of gout and their sequences.—The

baths, when assisted by the internal use of the waters, bring anomalous and latent gout into its proper place and form—into the extremities, thus relieving the interior.

Paralysis, general and local—the sequences of apoplectic attacks, or the consequences of metastasis of gout, rheumatism, or cutaneous eruptions from the surface to the brain or spine—also those paralytic affections occasioned by the poisons of lead, arsenic, mercury, &c., or contusions or other injuries of the head or back.

In the foregoing class of diseases, it will be often necessary to bleed, cup and leech, and give aperient medicine.

Scrofulous complaints, and all the *cutaneous* eruptions mentioned in connection with the Warm Springs.

Chronic rheumatism, with its various consequences.

The sequences of mercurial courses for various diseases, both in this country and between the tropics.

Several pulmonary complaints, occasioned by repressed gout, rheumatism or cutaneous eruptions. This class includes *chronic bronchitis*.

Uterine affections—simple amenorrhœa—chronic suppressed menstruation—neuralgic dysmenorrhœa.

Deafness from hardened or defective secretion from the membrane of the ear.

Want of power—from sprains, dislocations, &c.

Abnormal deposition of bone.

These and various other ailments are relieved at the Hot Springs.

The waters of the Hot Springs, like those of Wiesbaden, are contra-indicated in many cases. All *acute* diseases, that is diseases accompanied by fever or inflammation, are prohibited from these waters.

Whenever there is febrile action in the constitution, or local inflammation, however sub-acute, or even chronic, the use of thermal springs, either as drink or baths, but especially the baths, is dangerous. These waters, internal and external, will excite the circulation and nervous system (already too much exalted) into the most dangerous reactions, and lead to the most deplorable consequences.

Phthisical affections, except in the earliest stage, and before any material change has taken place in the lungs, preclude the idea of utility from these waters. Emaciation, from internal suppuration in any organ, and resembling phthisis, forbids the waters. The same may be said of cachectic habits, where the blood is broken down and the solids wasted.

Dropsy of the chest, abdomen or skin, will be prejudiced by these sources—and in short, all diseases connected with or dependent on defect of vital energy. Catarrhal affections of kidneys or bladder—fluor albus—chlorosis—severe derangement of the digestive organs—*chronic diarrhœa*,

with emaciation, will derive no benefit from these waters.

All tendency to spitting of blood, menorrhagia, vicarious menstruation, stony concretions in the bladder or kidneys, scirrhus of the stomach or uterus, all organic affections of the heart or large vessels, idiopathic epilepsy, catalepsy, chorea, will be injured by these waters.

In chronic rheumatism and gout, these waters have a high and just reputation. In cases of long-standing gout of the atonic kind, these baths are usually successful, and in these cases it is well to combine with them the internal use of the water. The *douche* may be used with great advantage in dispersing local swellings, puffiness, or stiffness of the joints. In cases of erratic, irregular gout, these baths also promise well, and frequently bring the morbid action to one spot—a condition often induced previous to an amelioration.

It cannot be expected, however, that a single course of the waters will eradicate the disease. Persons afflicted with gout should return for two or three seasons, passing the winter in a mild climate, and being regular in their habits and abstemious in their diet.

In slight rheumatic cases a few weeks usually suffice. In the more intractable cases of articular and muscular rheumatism, as also in rheumatic affections of the face and head, a more persevering course will be required.

The state of abdominal plethora, with congestion of the liver, and obstruction in the circulation of the *vena portæ*, with its consequences, as impaired digestion, deficient or vitiated biliary secretion, piles, &c., occurring for the most part in persons about the middle period of life, and marked by protuberance of the abdomen, with diminished muscular and nervous energy, is one calculated to be relieved by the use of the water internally and externally employed. Even when the drinking of the water is not followed by immediate sensible effects, either upon the bowels or kidneys, it is frequently not the less efficient on that account; and unless some inconvenience be experienced, it should be persisted in, as after a certain time copious critical evacuations will often occur, and be followed by immediate relief.

In several of these cases, especially when there exists hardness or tension in the region of the liver, spleen, or in other parts of the abdomen, the *douche* will be of material assistance in the treatment.

In many cases of *paralysis* the Hot Springs offer efficient means of arousing the nervous energy of the system, especially when the complaint is of a rheumatic origin, depending upon the impression of poisonous influences—as malaria, the abuse of mercury, or the employment of this, lead, or some other metals by workmen; as also in cases where the disease appears to be local, not connected with

cerebral disease, but arising from deficient energy of the nerves of the part or the spinal marrow, consequent upon exposure to cold, wet, or other analagous causes.

In conclusion, I give several selected cases, for the purpose of establishing the facts which I have stated relative to these waters. Persons desirous of examining them more in detail, are referred to the little pamphlet of Dr. Goode, already mentioned.

CHAPTER XVIII.

The following interesting letter, addressed to Dr. Goode, will be found to coincide with my views of the important agency of the Hot Springs in dysmenorrhagia, or painful menstruation. Dr. Howard was formerly professor of midwifery and the diseases of women and children in the University of Maryland, and is now professor in the medical department of the University of Virginia:

"UNIVERSITY OF VA., Dec. 10, 1841.

"*Dr. Thomas Goode.*

"DEAR SIR,

"I have just received your letter of the 17th inst., soliciting my opinion and experience of the remedial effects of the Hot Springs in *chronic diarrhœa* and *difficult menstruation.*

"In reply to your enquiry, I may state that for many years, but most particularly for the last ten, I have advised all my patients, who were afflicted with chronic diarrhœa or painful menstruation, that resisted medical treatment, to avail themselves of the

medical powers of the Hot Springs; and I do not now recollect of an instance, when the proper *preparatory measures* and *indispensable auxiliary regimen* to the use of the baths were strictly observed and persevered in, in which my expectations of the efficacy of the waters were disappointed.

"It is true that a few cases have occurred in which the patient returned to me without receiving relief, and some have claimed my attention in which the diseases appeared aggravated; but in all these cases it was ascertained, that either the preparatory measures *necessary* to be *adopted previous* to taking the baths, or the *auxiliary regimen* to be used *simultaneously* with bathing, were not rigidly adhered to.

"I feel constrained by the result of my observation and experience during my visit to the Hot Springs, to state, that I believe that those waters are so potent for *injury* as well as benefit to those afflicted with chronic diarrhœa or painful menstruation, that none such should use them without the advice of a physician *conversant* with their qualities. And physicians, when recommending this watering-place to their patients, should make them aware, that travelling and its incidents sometimes convert chronic into acute affections, and that a regimen and course of treatment, very proper in the former state, may be highly improper in the latter condition.

"I am, respectfully, yours,

"H. HOWARD, *M. D.*"

The following memorandum was made of the treatment of a case of chronic rheumatism at the Hot Springs in 1849:

August 3d. B. arrived at 10 A. M., excited by travel from Richmond, and in a constipated condition. At night, took 8 grains blue mass, which acted energetically next morning.

4th. Took spout bath at 100° Fah't, remained in 15 minutes, returned to his room, lay down and found pulse 104, face flushed and nerves greatly excited. Night, took 4 grains blue mass.

5th. Morning, a teaspoonful of Henry's magnesia, by which the bowels were freely evacuated. Noon, took *boiler*, pulse on entering 80; immersed 15 minutes, went into blankets, pulse 104; remained 45 minutes, at the expiration of which time pulse was still 104, face very much flushed, but nerves not so much excited as by the bath of 100°. This may have been owing to the brisk purgation caused by the blue mass, magnesia, and three glasses of Hot water, one taken in the bath, the other two in the blankets.

6th. In the morning took a glass of the Hot water and a short walk, pulse 83, the tongue was somewhat furred; after breakfast a copious evacuation; took *boiler* at 11 A. M., immersed 15 minutes; glass of water in the bath; immersed the head to-day; remained in the blankets one hour; after 15 minutes pulse was 100; at the close of the hour 106;

sweat not remarkable, but face did not flush as on yesterday; bowels again acted on, with some distress at the rectum; feels altogether more comfortable than the day previous; at night, takes blue mass, 4 grains.

7th. Morning, glass of warm water, followed by free evacuations; 12 o'clock, pulse 76, takes *boiler*, immersed 15 minutes, pulse on coming out 102; remains in blankets one hour, at which time pulse 80; a good deal enfeebled after the blankets, though the sweating was not profuse.

8th. Morning, action on the bowels continues; takes spout 100°, and directs the *douche* on the affected parts; a soreness is diffused through the limbs that makes locomotion more difficult; takes no Hot water to-day; the tongue slimy. Night, no medicine.

9th. Morning, takes spout 106° for 15 minutes; feelings pleasant, but pulse not counted; action on the bowels ceased. Night, sick stomach; takes blue mass, 3 grains.

10th. Morning, bath 106°; no movement of the bowels; tongue furred. 12 M., pulse 73; no impression made on the rheumatic pains. 6 P. M., this day, by way of experiment, took spout 106°.

11th. 6 A. M., takes spout 106°; pain and stiffness greater, and face flushed; pulse 110°.

Here the memorandum is discontinued, but the progress of the case up to the 21st day was pretty

much as stated, the pulse being uniformly excited, the face flushed, and the power of locomotion diminished. After three weeks, the patient being disheartened, left the water.

This was a case of four years' continuance, and a remarkable one. The weight of the disease seemed to have fallen on the abductor muscles of the thighs up to this time, when it appeared to extend into the hips and knee joints. There has been no shrinking of the muscles, no apparent effusion, but continuous and intense pain; occasionally, however, more aggravated. The general health is usually good. Before he visited the Hot Springs in 1849, he had an attack of cholera, which deranged the functions of the liver; and this may have been one cause of the failure of the water to afford relief.

The writer is now impressed with the belief that he was too precipitate in leaving the water, or, at least, imprudent in not returning to it after using the sulphur waters. He intends giving it another and more persevering trial, and still has confidence in obtaining relief at the Hot Springs.

The author made a memorandum of the following case at the Hot Springs in August 1849:

Case of Mr. Newsom of South Carolina.

Mr. N. was afflicted with indurated and engorged liver and enlarged spleen, and of course dyspeptic.

He spent at the White Sulphur some nine days, during the last four of which he represents himself as greatly benefited, there having been a decided impression made on his liver.

When he came to the Hot Springs he put himself under advice of Dr. Goode, who gave him, after one bath at night, four pills, composed of calomel, blue mass and rhubarb, each one grain. Next day, taking the spout-bath and directing the stream over the liver, he felt as he describes it, "a *giving way* as if the abdomen was caving in." This was followed by most copious discharges of bilious fæces after bath, and clots of matter streaked with blood. He felt immediate relief, and on the 10th day is leaving the Hot in comparatively good health.

Cases furnished by Dr. Goode, shewing the benefits arising from the use of the Hot Springs in various chronic affections.

NOTTOWAY COUNTY, Dec. 18, 1839.

DEAR SIR,

In July 1838 I was violently attacked with what is commonly called the bilious colic, (whether from the passing of calculi, or a deranged state of the secretions of the liver, I am unable to say,) followed by an ardent fever, terminating on the 9th day in a well-marked case of jaundice, with dyspeptic symptoms and great debility.

As soon as I was able to travel, I set off for the White Sulphur Springs in a carriage, and was again attacked on the day of my arrival with violent pains and spasms in the region of the stomach and liver, followed by fever and an increase of all the above-mentioned symptoms. As soon as it was thought prudent, I commenced the use of the White Sulphur water, in combination with the blue mass or calomel and the most approved vegetable extracts. The water, so far from relieving, evidently aggravated my disease, proving highly exciting, and not in the slightest degree affecting the biliary secretions. I used the White Sulphur water 18 days, and not receiving any benefit, I determined to try the Hot Springs.

On my arrival there I was greatly debilitated and in much pain—commenced the use of the bath that evening, and so great was the sensibility of the liver and whole abdominal region, that I could not for a moment suffer the spout-bath to fall on it. I used the spout-bath with evident benefit for five days, and on the sixth went into the *boiler* or sweat bath. The first sweat seemed to unlock the liver as if by magic, causing free discharges of bile; and from that day all the functions of that organ appeared to be perfectly healthy and regular. I daily gained flesh and strength, and returned in the latter part of September, nearly restored to health.

In December following I was again attacked with all my old symptoms, if possible in a more violent

degree, (produced by exposure to a snow-storm,) which nearly proved fatal. I was confined to my bed all the winter, and did not leave my house till late in March. My recovery was slow and imperfect, and in August 1839 I determined to try the Hot Springs again. On my arrival my health was very bad—symptoms nearly as in 1838, my bowels nearly insensible to the most drastic cathartics. I was not disappointed in my hopes from the use of the baths, but realized my most sanguine expectations. After using the spout and sweat bath alternately for eighteen or twenty days, finding my health greatly improved, I went to the White Sulphur, and found the water to agree admirably with me, experiencing none of the injurious effects this season which it evidently produced in 1838.

Since my return home I have continued to enjoy good health, and have no hesitation in saying, I owe it all, under kind Providence, to the Hot Springs. I have purposely delayed sending this communication at an earlier day, that there should be no mistake from any temporary benefit derived from the use of the baths. My experience warrants me in saying that the use of the Hot Springs bath is the very best preparation of the system for the safe and beneficial use of the Sulphur Waters of Virginia.

Yours, respectfully,

A. A. CAMPBELL, *M. D.*

Dr. THOMAS GOODE.

HOT SPRINGS, August 18, 1838.

In September 1835, I was taken with a bilious intermitting fever, which continued at intervals, in spite of remedies, until May 1836, when my liver and spleen became much enlarged, my appearance was bloated and dropsical, and my whole system deranged. I had a craving for food of the grossest kind, which could not be satisfied, and my bowels were so costive as to require the strongest purgatives to move them. I applied to our most skilful physicians for advice. I was leeched, cupped, blistered and salivated: took much medicine internally, but without benefit. I also tried the Saratoga Springs, but without effect. I continued the use of medicines until the 26th of June 1838; I then visited the White Sulphur Springs, and used the waters, with the blue pill, for two weeks, but without the least benefit—they acted freely on my kidneys, and produced a white, mucous discharge from my bowels, but no bile. I then came to the Hot Springs, and after bathing for three days, my liver began to discharge itself into my bowels, followed by copious evacuations, by puking and purging, of ill-looking bilious matter, which sickened me very much, when I called in Dr. Goode, by whose advice I have since been governed.

The bath and medicine have reduced my liver almost entirely—the enlargement is barely perceptible. My spleen is diminished about one-third, and

is much softened. The discharges from my bowels are nearly natural. My health is fast improving, and I know that I ought not to leave the place, but hope, with common prudence on my part, to become again a healthy man.

The above statement is most freely made for the benefit of those who are suffering in the same way.

MORGAN A. PRICE.

HOT SPRINGS, August 13, 1842.

About four years ago my liver became diseased, dyspeptic symptoms came on, with a diarrhœa, which continued for eight months, and in spite of the best medical aid, prostrated my whole system and destroyed my health completely, terminating in a fixed enlargement of my liver and spleen—my colon also was greatly distended and felt hard. My physicians thought it indurated and incurably diseased. My sufferings were constant, and oftentimes severe.

Deriving no benefit from medicine, I was induced to visit the Virginia Springs. I used the White Sulphur water twenty-five days with some benefit. It caused moderate discharges of bile from my bowels, but did not reduce the size of the liver, spleen, nor intestine. I then came to the Hot Springs, and by your directions commenced the use of the spout bath, temp. 100°. About five hours after taking the first bath, I felt a contraction

in the region of my liver, with pain like the twisting of a cork-screw in the direction of my intestines, which soon extended to the lower bowels, followed by several copious evacuations, (not less than two quarts,) resembling tar in color and consistence, and producing great heat and pain as it passed off. In a short time I felt much relieved. The next day I took the same bath, which was followed by some pain and several moderate, dark discharges. For the next three days no sensible effect was produced by the bath. You then directed me to the spout, temp. 102, which was followed by pain and copious discharges, of color not so dark as the former. From this time to the sixth day, I have experienced daily amendment. My liver, spleen and colon, so far as I can ascertain, are all reduced to their natural size. I suffer no uneasiness whatever, but feel perfectly restored in all respects. I have used the baths for three weeks only.

My residence is at Point Coupee, State of Louisiana.

M. FOUNOIR.

To Dr. Goode, *Hot Springs.*

Beach Hill, 6th October 1835.

Dear Sir,

I have received your letter of the 10th September, asking the particulars of my disease, together with the benefit I derived from the use of

the waters of the Virginia Springs two years ago. I had been a confirmed dyspeptic for near five years, with symptoms of the most distressing character; my bowels in a state of obstinate costiveness—medicine making but little impression on them. I applied for aid to many of the most celebrated physicians, but got no relief. I then determined, as a last resort, to try the Virginia Springs.

I attended the Sweet Springs, the White Sulphur and Salt Sulphur, and the Hot Springs. From the three former I derived no benefit whatever; but the benefit which I did receive was from the spout bath at the Hot Springs, which I believe saved my life. On the third night I was waked up by a severe griping, which was followed during the remainder of the night by repeated and copious discharges of vitiated and acrid bile. The next morning I was greatly better, and afterwards improved rapidly. I remained only eight days, and gained eleven pounds in weight. I went by your direction and took no medicine.

I am, very respectfully, yours,

CHARLES HAMLIN.

To Dr. Goode, *Hot Springs.*

Charlottesville, Nov. 10th, 1842.

My Dear Sir,

At the request of Mrs. Kelly, I furnish you with a brief statement of her case.

Mrs. Kelly, about eighteen months anterior to the summer of 1815, was attacked with unequivocal and decided hepatitis: First, in its usual form, with all its peculiar and characteristic symptoms, resisting the most active and vigorous medical agents that could be adopted—the disease gradually progressing into the chronic form, with enlarged liver, jaundice, diarrhœa, &c. In this stage the appropriate remedies were perseveringly used, still without relief, until the season approached for a trial of the mineral waters. At this period such was her debility, emaciation and prostration, that her friends despaired of her reaching the Springs. The effort, however, was made; and she arrived at the White Sulphur, where she remained six weeks, using the water without improvement in her complexion, or any favorable impression on the disease. She was now transferred to the Hot Springs, where she remained one month, assiduously employing the boiler and spout baths, and under their use she became completely relieved, the jaundiced state of the skin disappearing, also the enlarged condition of the liver, with an almost entire exemption of any serious recurrence of the disease from that period to the present time.

Very respectfully,

CHAS. CARTER, *M. D.*

To Dr. Goode, *Hot Springs.*

Dr. Goode.

DEAR SIR,

A long indisposition from the effects of a deranged state of my liver led me to try the Hot spout bath at your Springs. I had previously remained four or five weeks at the White Sulphur, from which I had derived much advantage, but not so much as to make me believe that I could not be further benefited by the use of the Hot Baths. Its effect upon me was immediate, and as powerful as I had been led to suppose, producing a free action on the liver. I continued to use them eight or nine days with equally happy effects. Entertaining as I do, the highest opinion of the efficacy of the Hot Springs in all cases of a diseased liver, I am led to give you this simple statement for the benefit of others as much in need of them as myself.

Very respectfully,

Your obedient servant,

JOHN L. MANNING,
Of South Carolina.

HOT SPRINGS, Sept. 20, 1838.

Dr. Thomas Goode.

SIR,

For nearly three years I have been subject to very frequent attacks of jaundice, but more particularly during the year 1838, when my liver be-

came torpid, and refused to perform its functions—the biliary duct seemed to be closed—my bowels became much disordered, and I had a confirmed diarrhœa. I became very weak from the effects of medicine, and was unfit for business or society.

By the advice of my physicians I left Philadelphia on the 27th of June for the Virginia Springs, and reached the Hot Springs early in July, much exhausted. I used the spout bath for three days, and on the fourth I took the sweat bath, which reduced the number of discharges from my bowels to one a day, and I felt better. I continued the sweat bath for near three weeks, and my health appeared to improve from every bath. My appetite and strength increased rapidly, and my complexion, which was very sallow, became clear and healthy. I then went to the White Sulphur for two weeks, taking from eight to ten glasses of water daily, with evident benefit. I returned then to the Hot Springs, and took the sweat bath nearly every day for two weeks, with half a wine glass of a mixture of the extract of taraxacum, when I found my health restored. I gained twenty-four pounds in flesh.

Yours, respectfully,

DR. KIRKPATRICK,
Of Philadelphia.

During the summer of 1837 I was attacked with violent pains in the region of the stomach and liver,

proceeding, as was afterwards ascertained, from calculi in the biliary duct. At a succeeding period I discharged several of these calculi, which, together with other facts, clearly indicated the seat and nature of my disease. It was said by my physicians that mine was a case in which there was great doubt of a final recovery, owing to the frequency and violence of the attack. Each attack was attended with the usual symptoms, and jaundice invariably supervened.

I visited the White Sulphur Springs in August 1828, and was much improved—so much so as to suppose at the time that I was entirely relieved. On my return home, however, the attacks returned with the same violence, but not so frequently. I re-visited the White Sulphur in 1829, with the same good effect as to my general health as in 1828. The disease still continuing, I visited the White Sulphur again in 1830, with the same results as to my general health, and after remaining there about three weeks, I went to the Hot Springs, and used for eight or ten days the spout bath, and have never had a similar attack since. I believe myself entirely free from the disease under which I then labored, by close attention to my general health, the use of the water at the White Sulphur, and the spout bath at the Hot Springs.

J. L. WILKINS, Jr.,
Of Brunswick County.

In the summer of 1836 I visited the Virginia Springs with liver disease, as stated by many physicians. I used the sulphur waters for some time, but without any decided effect. I then came to the Hot Springs, and after using the spout bath a few days the pain in my right side increased from a dull to an acute, which induced me to apply to Dr. Goode for advice. He gave me ten grains of calomel, which brought about a most happy change in my feelings and health, producing copious discharges of dark bilious matter, when forty grains often before taken produced but a limited effect. From the Hot Springs I returned to the White Sulphur, and the water then acted freely on my bowels.

JAMES L. COLEMAN,
Of Georgia.

Hot Springs, Aug. 14th, 1837.

In 1826 I had a protracted attack of bilious fever, which left me in a bad condition. My stomach being much disordered, accompanied with great flatulency, gave me from four to six passages every twenty-four hours, and sometimes oftener; my stools mixed with blood, more or less, and sometimes with matter very offensive. At length a tumor formed in the lower intestine, about the size of a small walnut, attended with great heat and itching, which ultimately broke, and I occasionally discharged considerable quantities of blood and matter by

stool. I then thought, and still think, that the whole rectum was much diseased, and that I should be compelled to submit to an operation, or fall a victim to the disease.

In addition to my sufferings, in the fall of 1831 I had a severe rheumatic attack, which pervaded my whole muscular system, but was most distressing about my breast, chest, bowels and hips. In this situation, about the 1st of July following, I went to the Hot Springs, barely able to sit up, and used the waters freely, drinking and bathing until the 30th of August, when I left them much relieved in every way. The ensuing summer I again returned to the Hot Springs, and used the waters by drinking and bathing, until the last of August, when I returned home entirely relieved of bowel disease, and nearly so of my rheumatism. I have again this summer visited these Springs, where I have been for three weeks, using the waters as before, and believe myself entirely relieved of all my complaints, except a little stiffness in my hips and back.

The above statement is believed to be strictly correct; and if you think it will be of any service to you, or to sufferers in a similar situation, you may make any use of it that you may think proper.

Very respectfully, yours,

HENRY CALLOWAY.

Aug. 30, 1834.

To Dr. Goode.

April 1833.

I was seized with cholera in a southern climate, from which I had scarcely recovered when intermittent fever attacked me. This continued at intervals until September, when congestive fever supervened, and continued with much violence for the space of nine days, and only subsided to give place to the intermittent again. From this time a morbid appetite began to prey upon me. The ague alternated with a severe dysentery until March 1834, œdematous swellings of the lower extremities made their appearance, but gave way to the use of alteratives and muriated tincture of iron. I became much emaciated and debilitated; my spleen became much enlarged; an excessively morbid condition of the stomach continued, an ungovernable craving for food of the grossest description and other indigestible substances. In the mean time an uncontrollable diarrhœa, which has given me more uneasiness than every other symptom, came on. During nearly three years, every article of diet swallowed would ferment, produce the most distressing cardialgia, and run off from the bowels by profuse watery evacuations. The spleen in the left side and swelling of the stomach and intestines was great and painful. The irritability of the alimentary was so great, that the smallest portions of calomel or blue pill, combined with opiates, would

produce an hypercatharsis, sometimes almost fatal; neither food nor medicine agreed with me.

In this state of almost despair, I visited the White Sulphur Springs, and finding that the water disagreed with me, inasmuch as it proved too drastic, I determined to visit the Hot Springs. In a few hours after using the bath, I had a bilious discharge, which had not occurred for eight months. In four days time, my diarrhœa ceased, and my evacuations became almost healthy in complexion. I had been very much annoyed by hæmorrhoids for fifteen months, which was relieved by the spout bath in three days. The improvement in my complexion was so great that the visiters would remark, "Why, Doctor, you will soon be well." My spleen was reduced about one-half, the abdominal muscles became relaxed and soft, my strength and activity very much improved, and every symptom seemed to give way to the use of the bath.

A. Y. WATSON, *M. D.*

HOT SPRINGS, Sept. 10th, 1837.

SIR,

More than three years since I was taken with a severe dysentery, which was succeeded by what I should term a mucous diarrhœa. Since that time I have suffered an annual return of the dysentery each summer until the present—this year I have escaped this periodical attack by passing my time in the mountains.

I remained a week at the White Sulphur without the slightest benefit, when I directed my course to the Red Sulphur, where I remained five weeks. My general health was greatly improved at this place, and at first I was cheered with hopes of a recovery, but I left the Red Sulphur with the diarrhœa in full force on me, and without the slightest diminution of the mucous discharge, although the bilious secretions were slightly improved. In that state, a state of unabated diarrhœa, I reached the Hot Springs seven days ago, and was persuaded to use the spout bath. I applied the spout principally to the region of my liver, and to my back—wonderful to relate, I felt instantaneous and perfect relief—the mucous discharge entirely ceased, which had not occurred previously in the whole course of my disease. Since the first day I have felt no pain or uneasiness in the bowels, whereas before I was tortured night and day. So well do I feel, that I shall start for home to-morrow in fine spirits, and only regret that I had not sooner tried your Hot Springs. This is a short and rapid sketch of my case, but I assure you it is a faithful one. I shall make no commentary, but will simply say, that I consider my cure entirely and solely owing to the Hot spout.

ROBERT J. BRENT,
Of Washington, D. C.

To Dr. Goode.

Hot Springs, August 1837.

To Dr. Goode.

Dear Sir,

I give you the following statement of my case: About ten years ago I became dyspeptic, and was unwell in the usual way, when at length I became much worse; almost everything taken in the stomach produced pain, and frequently violent spasms, which threatened death. I experienced no relief when under the influence of calomel; tiring of which, after suffering for about two years, I determined to try the sulphur waters.

I commenced at the White Sulphur, but the water disagreed with me, and I then went to the Salt Sulphur, understanding that the water was more purgative; for you must know that my bowels were invariably constipated. After using the water for two days, I had a violent attack of spasm, which was relieved by a hot bath. I then came immediately to the Hot Springs; my stomach was so much debilitated, that I was compelled to live exclusively on milk and mush, and the like bland food. The first meal I took at the Hot Springs was milk and mush, which brought on pain, threatening spasm. I went immediately into the spout bath, and from that day to this I have been entirely exempt from the disease.

I bathed every day, sometimes twice, and in a

few days I was enabled to eat everything at the table, including desserts of all kinds.

WILLIAMS CARTER,
Of Hanover.

HOT SPRINGS, August 28th, 1849.

Dr. Goode.

DEAR SIR,

Believing that a knowledge of it may be useful to others suffering in the same way, I furnish you the case of the Rev. D. C. Wharton, as stated to me by himself in 1845. I do this the more readily, as his demise since prevents a statement under his own hand.

He was suffering from a torpid and gorged liver, attended with dyspepsia, obstinate costiveness and great debility. He visited the Sulphur Springs, but without any material benefit. His appearance was improved and his complexion changed; but there was no evident action on the liver. At my urgent solicitation he visited the Hot Springs, and the first bath he took produced copious discharges of vitiated bile, both by vomiting and purging, attended with much sickness at stomach and general prostration of strength. This alarmed him so much that he could not be prevailed on to take another bath, but left the Springs the next day.

The disease of which Mr. Wharton subsequently

died, was, I believe, a malignant type of fever, prevailing at the time as an epidemic in the section of Campbell county constituting the field of his ministerial labor.

Yours truly,

DAVID CALDWELL.

Paralysis.

RICHMOND, Sept. 24th, 1842.

Dr. Thomas Goode.

DEAR SIR,

Having used your baths with such decided benefit, I deem it proper that I should give a statement of my case, which I will do as briefly as possible. In March 1833 I had a most violent attack of paralysis, which destroyed the use of the whole of my left side, and with it brought on a state of general debility, which entirely disabled me from attending to business. In this situation I left home for the mountains, hoping to regain my health by travelling and the use of the different mineral waters; but after spending nearly four months in going from Spring to Spring, I had to return home but very little benefited in my lame side, although my general health had improved a good deal, which was some little encouragement to me to make another trial; and when the next summer

(1834,) opened, I again started for the White Sulphur, and remained there one month, and then went to the Sweet Springs, and remained two weeks or more, and again returned to the White Sulphur, where I remained some time; but finding little or no improvement in my lameness, I determined to try the Hot Springs baths, although it was against the advice of physician and friends, and left for that place, not knowing what would be the consequence of my seeming rash determination; but when I saw you and received your assurance that there was no danger in my using the baths, I was encouraged, and commenced bathing without delay, and found that it suited my case exactly; for the effect was at once visible in the rapid improvement of my lameness, and the better condition of my general health; and I returned home cheered with my much improved health, and commenced a business of much labor and activity, which I have followed down to the present time, (eight years,) with little or no interruption from my old disease.

Very respectfully,

Your obedient servant,

SAML. HARDGROVE.

Deafness.

STEUBENVILLE, Nov. 20th, 1838.

DEAR SIR,

Annexed is a concise statement of my case. For several years my health had been bad. I had suffered much from a rheumatic affection of the muscles of my back, which was always severe in cold weather, and induced me to spend some winters past in New Orleans. About three years ago, after an unusual exposure, I felt that my disease was transferred to my head. A dizziness, approaching to blindness, came on, and at times I suffered an indescribable sense of weight or heaviness on the brain, and almost wholly lost my hearing in one year. These unpleasant complaints continually increased. In the mean time I followed rigidly the advice of physicians. I lived abstemiously, was frequently bled and cupped, and had cold water and ice applied to my head, which produced only temporary relief. At one time I used the blue pill until my gums became tender, and felt decidedly better under its influence; but the disease still remained, depressing my spirits, and impairing all the enjoyments of life. At two different times the distress in my head was so great as almost to deprive me of consciousness, until I was bled.

Early last summer all these symptoms had assumed a more fixed and threatening character than at any former period, when I determined to visit the Virginia Hot Springs, where I arrived in August. I used the waters in the customary way, permitting the spout to fall directly on the ear of which I had lost the hearing, and over the head generally. I experienced immediate good effect; and before I left the Hot Springs, where I remained about three weeks, recovered my hearing entirely, and also felt perfect relief in my head. This relief has continued up to this time. I find no inconvenience whatever to follow the use of my ordinary diet, and can truly say, that I have not felt so entirely in good health for many years.

Very respectfully,

Your obedient servant,

MARTIN ANDREWS.

HOT SPRINGS, September 18th, 1840.

DEAR SIR,

At your request, I give you a statement of my case. In February last I was taken with a violent cold in the head, which left me almost entirely deaf in my left ear. I came to the Hot Springs on the 18th of July, and after using the baths freely for about two weeks, my hearing

was restored, and has continued perfect without interruption up to this date.

JOHN B. CUTTING,
Lieutenant U. S. N.

To Dr. Goode.

Rheumatism.

Hot Springs, Aug. 8th, 1838.

To T. Goode.

Dear Sir,

I give you a short statement of my case. In 1826 or '7 I experienced a severe attack of bilious fever, which reduced me very low. I was scarce able to leave my bed, when the fever was succeeded by a violent attack of inflammatory rheumatism, from which I recovered in about two months. In February 1835, after a slight bilious attack, the rheumatism returned in a chronic form, and reduced me to a state of helplessness. All hope of recovery was deemed idle, my constitution being very weak. I left home for the White Sulphur in June following, remained there two weeks, and left with a severe cold that augmented my disease.

I remained here near or quite a month, taking the spout and boiler baths alternately, and entirely re-

covered. I have not had the slightest return of the disease since.

Yours, &c.,

WM. M. DARLINGTON,
Of Petersburg.

HOT SPRINGS, 29th Aug. 1833.

In the month of January 1806, during my attendance on the Virginia legislature, of which I was then a member, I was very sorely afflicted with an attack of inflammatory rheumatism, and about the 1st of July in the same year, after the disease had assumed a chronic state, I arrived at the Hot Springs in Virginia, much debilitated, requiring two persons to put me in and take me out of a carriage. I remained at the Springs sixty-three days, using the bath once every day except three. I was weighed the day I got to the Springs, and also on the day I left them, and, if I was correctly weighed, I gained sixty pounds in weight in sixty-three days, and remained free from that complaint for upwards of twenty years.

H. CALLOWAY,
Of Franklin Co.

PHILADELPHIA, 23d February 1834.

In the year 1826 I contracted a very bad cold, by sitting for several months in a room which had been recently plastered upon very thin walls. The

cold at first fell upon my breast, and was attended with a cough. After some time the cough subsided, and I was seized suddenly with a pain in the right arm. In a few days the pain became very violent; it was seated principally in the shoulder-blade, but extended likewise from the shoulder down to the points of the fingers. The best medical aid was resorted to, but there was no alleviation from the pain, not even for a minute. In this situation I got little or no sleep; the agony was so much increased by lying in bed, that the only rest obtained was by lying, with my clothes on, across the foot of the bed, with the affected arm hanging down. In this situation exhausted nature would sink into a doze, out of which I was soon awakened by the pain. The arm dwindled away, my appetite failed, and my general health was fast declining.

Reduced to this state, I determined to try the Hot Springs in Virginia. With difficulty I was taken there, and had no reason to repent of my determination. I took forty hot baths, using the blankets each time. At the end of two months I returned home so much altered in appearance that I was the object of astonishment to those who had seen me previous to my departure, and in another month I was perfectly restored to health.

P. A. BROWN.

To Dr. Goode,

Hot Springs, Bath Co., Va.

Old Injuries.

In 1837, after spending three weeks at the White Sulphur and other Sulphur Springs, where I drank the waters, I visited the Hot Springs, and there took regularly two spout baths a day, from the 8th to the 18th of September, inclusive. My object was to get rid of a rheumatic pain above the right hip, occasioned by a fall the year previous. The second spout removed the pain from the hip to the shoulder, and the succeeding ones made it travel still more over my back; thus I suffered more that week than I ever had done before, but at the end of ten days I left the Springs entirely free from pain. The second and third spouts produced likewise a most extraordinary effect on the liver—a copious yellow evacuation, such as I never witnessed in my life.

In 1838 I spent a week at the spout in order to see whether it would produce the same discharge, but it had no longer the same effect.

H. DAVRAINVILLE
Of Philadelphia.

Hot Springs, Sept. 1st, 1838.

SOUTHAMPTON, 15th Feb. 1843.

DEAR SIR,

Having derived the most important benefit from the use of the spout bath at the Hot

Springs, it gives me pleasure to comply with your request, and bear testimony to its virtues.

In the month of August 1829 a horse ran away with me in a gig—I leaped out, fractured the small bone in my leg, and injured the patella or knee-pan most severely. A tedious confinement was the consequence. When I was sufficiently recovered to leave my bed, I found the leg so contracted that I could not walk without the aid of crutches. Indeed, when standing erect, my foot did not reach the ground by four inches. The limb shrunk from inaction; and fearing I should be a cripple for life, I visited Philadelphia and consulted Dr. Physic. He told me my case was hopeless, and surgical aid would be of no avail. I returned home, and went to the Hot Springs. I had then been on crutches more than twelve months—my left leg was not half the size of the right, and so contracted that I could not get the foot to the ground. The very first bath relaxed the contraction—my leg became straight, and I walked back to my cabin without crutches. I used the bath once a day for about three weeks. The limb was gradually restored, and I have never used crutches since. I regard myself indebted to the Hot Springs for my leg.

I am, most respectfully,

Your ob't serv't and friend,

J. Y. MASON.

Loss of Voice.

HOT SPRINGS, 19th Sept. 1836.

To Dr. Goode.

In the year 1826 I was taken with a violent cold, which deprived me of the power of uttering a word above a whisper. The tonsils, epiglottis and the windpipe were considerably inflamed and swollen, especially in cold, damp weather. In 1827 I visited the Red, Salt and White Sulphur Springs, which improved my *general* health. In 1828 I came to the Hot Springs and took forty-two sweat baths in succession, and occasionally the spout. My general health was greatly improved, and my voice so much strengthened as to enable me to converse in the ordinary tone of common conversation. I remained at the Hot Springs fifty-seven days, and gained twenty-two pounds in weight. I used no animal food whilst bathing.

I am, very respectfully,

W. FOUNTAIN,
Of Fluvanna County, Va.

Neuralgia.

Hot Springs, 27th Aug. 1844.

Dr. Goode.

For several years anterior to 1843 I had been most severely afflicted by acute neuralgia, particularly in my right side, from the arm-pit to the hip bone. The paroxysms were so severe that my system, in spite of all the remedies I could obtain. was reduced to great debility and emaciation, and consequent mental depression.

I had visited Saratoga Springs twice, and some other watering-places, without any permanent benefit. In the summer of 1843 I determined to try the Virginia Springs. After about a month spent in using the White and other Sulphur waters, I repaired to the Hot Springs, and after using the spout bath and boiler for two weeks every day, and sometimes twice a day, I was, to my great surprise and gratification, *wholly relieved.* For twelve months past I have had but one slight paroxysm. Under Providence, I may therefore confidently ascribe my restoration to the Hot Springs.

As the disease abated, my appetite, flesh and strength increased, and despondency has flown, I trust, forever.

I am, very respectfully,

J. C. HERBERT,
Of Maryland.

CHAPTER XIX.

BATH ALUM SPRINGS.

The Bath Alum Springs are situated at the eastern base of the Warm Springs mountain, five miles east from the Warm Springs, forty-seven east of the White Sulphur, forty-five west of Staunton, on the main route from Richmond to Guyandotte on the Ohio river.

This very beautiful and interesting valley is a species of cove embosomed in mountains, having on the east McClung's ridge, on the southeast Mayer's mountain, west by northwest Piney ridge, and southwest Little Piney. It contains about 1000 acres, and is watered by Thompson's creek. The soil is light and sandy, and the locality must undoubtedly be healthy.

This place has risen in the wilderness as if by magic, within the last year, under the hands of the enterprising proprietor, John W. Frazier, Esq., and of his respectable and highly intelligent manager, Col. Wm. H. Allen. The place was crowded last summer, and it bids fair to be an important competitor with the Rockbridge Alum for public favor.

The buildings at the Bath Alum form a semicircle. The centre building or hotel is, with the basement, four stories high—90 feet by 45, having a double portico 60 feet long, upon the Gillock order of architecture. This building has 12 rooms 16½ feet square, 15 rooms 16½ feet by 12. One, the ball-room, 40 feet square. The dining-room runs back from the centre of this building 115 feet by 25, intended for a double row of tables.

On the east of the hotel is, first, a building 63 feet by 40 feet, three stories high, with 24 rooms 15 feet square, having a portico 35 feet long, Gillock order. Next, a block of cabins 60 feet by 18, one story high with 4 rooms, and two lattice-work porticoes. Next is a block of similar description.

On the west of the hotel is, first, a building two stories high 63 feet by 40, with 16 rooms 15 feet square, a double portico 35 feet long, Gillock order. Then two blocks of cabins as on the east. All these buildings are of brick, and in good style and taste.

The semicircle fronts the south, with ten acres as a lawn. Down the centre are two rows of trees 40 feet apart, interspersed with shrubbery, and extending to the main road. Ranging with the semicircle are three rows of trees, forming, first, a side walk, next ten feet of ornamental grounds and then the carriage road. On either side of the avenue or front rows of trees, are clumps of trees and shrub-

bery, and lattice-work summer-houses and delightful promenades. Between the cabin porticoes are vines, shrubbery and nicely sodded yards.

It will be seen from this detail, that the Bath Alum possesses many advantages over the other establishments in its substantial and ornamental arrangements. It commences its career under the most favorable circumstances. The first of the great group of Springs on the main road going West, it breaks on the view of the traveller in all its beauty and freshness, like a young bride extending her arms to enfold the idol of her love. Here, too, the Circean cup awaits him, and he may drink and drink again, without any apprehension of being transformed into that horror of the Israelites, but may rather hope, if he has about him any swinish unseemliness, to slough it off, and become as sleek as a mole and as blooming as an opening rhododendron.

The fare was excellent here last summer, and it is to be presumed will be better the next—for in a place entirely new and unfinished many conveniences must have been wanting. The rooms are furnished in much better style than at any of the Springs. The beds are as good as those of any private gentleman, and, indeed, every thing at the establishment that came under my observation was worthy of commendation. There are two beautiful parlors, with a fine-toned piano, and I learn it is the intention of the proprietor to have a band of music, and to encourage gaiety and happiness.

With such manifestations of a disposition to please, superadded to the advantage of varied and valuable waters, it is impossible but that the Bath Alum shall take a prominent position among the Virginia Springs, and greatly increase the attractions heretofore exclusively offered by the Hot and Warm in this Eastern section of the Mineral Springs region. But we must have that omnibus plying between the Bath Alum and the Warm Springs, and they must have fancy-balls and *Union* parties, now at one, and now at the other. Let there be no narrow-mindedness, no jealousy, but let both, and the Hot, too, be assured that in the plan here suggested they will find their *account.*

It will be pleasant to see good neighbors prosper, as they undoubtedly will, as soon as the facilities of travel, now daily extending toward them, shall invite to those favorite regions the vast multitudes that now resort to less salubrious climates and less powerful medicinal agents; and if this little book should ever find its way to Great Britain, the author would most earnestly advise the invalids of that country, who annually crowd to the German Spas, to cross the broad and beautiful Atlantic in their magnificent packets, and seek health, pleasure and society amidst our majestic mountains, in a climate equal to any on the globe during the summer season, at a group of Springs unequalled for their variety and adaptation to diseases, and among the descend-

ants of their own land, speaking the same language, inspired by the same social spirit, cherishing the same principles of liberty, and bound to each other by the close though invisible bonds of sympathy and early associations.

And to the people of the North, and to those of the South, the *capillaries* of the Union, I would say, flow on through your respective conduits, to the social heart of the mother of states—Old Virginia. If your streams have been rendered turbid by prejudice; if too much carbonic acid, or unwholesome bile has mingled in their currents; she will urge you on to the healthy lungs in her parental bosom; she will oxygenise your *ill-blood* in the pure atmosphere of her mountains; she will render it ruddy and healthy, and send it back bounding with impulse, inspiring fraternal affections and sympathies, and connecting the frame of our social and political Union by tissues that shall not decay, and ligaments that can never be loosened.

Intercourse, free intercourse only, is necessary to make the two great sections appreciate each other, and to put an end to that pragmatical, offensive, fanatic meddling, which has served to alienate a generous, chivalric and warm-hearted portion of this great family of republics.

Outside the lawn, below the public road, and underneath a shelving slate-stone cliff of about fifteen feet high, covered by a layer of earth about five feet

in depth—are found what are called the Bath Alum Springs.

In limestone regions where caves are found, the rain falling on the surface and percolating through the fissures of rock, dissolves, by means of its carbonic acid, a portion of carbonate of lime, and, falling on the floor or depositing on the walls of the cavern, forms stalagmites or stalactites. Now, there can be little doubt that the alkaline properties of the clay-slate are in like manner, through means of carbonic acid, taken up in solution from the decomposed rocks through which it passes, and thus through such formations are found percolating, waters containing alum and other alkalies.

At the base of the clay-slate cliff are excavated six little reservoirs that catch the drippings of the rock. The upper of these is a strong chalybeate, the second is a chalybeate and alum; the third, fifth and sixth, are alum of different degrees of strength, and the fourth is supposed to contain magnesia. A little up the ravine there is a weak sulphuro-chalybeate, giving also evidences of alum. The rock has the same characteristic dip and appearance as the Rockbridge Alum, but is only about one-fourth its height.

The proprietor informs me he has sent the waters to be subjected to analysis, and I trust therefore that before this work goes to press, I shall be able to lay the results before my readers.

I regret to say my expectations have not been realized. The following little sketch from Professor Rogers is all I am enabled to supply:

DEAR SIR,

I send you a statement of the principal contents of the Bath Alum Spring.

The quantitative results are not yet completed, as the examination of the water for some of its minuter components is now in progress.

The chief ingredients are—

Free sulphuric acid.
Sulphate of protoxide of iron.
Sulphate of alumina.

The water also contains in *small* quantity—

Sulphate of lime.
Sulphate of magnesia.
Sulphate of soda, &c.

Although I have failed in obtaining in time a minute analysis, yet the failure is in a great degree compensated by the following interesting letter from Dr. Strother of the Warm Springs, one of the most eminent physicians in that country, to whose skill I, with many others, am greatly indebted. With characteristic modesty he has desired I should withhold his name; but I feel I should not be doing justice to the mineral water by depriving it of the benefit of his authority, and I have therefore ventured

on a departure from his instructions, which I hope he will pardon:

WARM SPRINGS, March 17th, 1851.

Dr. Burke.

DEAR SIR,

I give you, concisely, the result of my acquaintance with the Bath Alum Spring and its medical virtues. My knowledge of it as a remedial agent, commenced soon after its discovery, and is probably more extended than that of any other person, as for the last ten years I have been in the habit of advising its use in the treatment of disease. At first it was used as a remedy in scrofulous, eruptive and dyspeptic diseases, and in many instances with remarkable effect. But on these points I believe its efficiency has been sufficiently tested to give to the Spring a high character, which I am satisfied it justly merits.

In hepatic derangement of long standing, with all its attendant train of symptoms, where medicine has been tried in vain for years, as well as some of the most approved Mineral Springs, I have known the Bath Alum to produce the most decided good effects, and there are now many living evidences of the truth of this assertion. In chronic diarrhœa, chronic thrush, dyspepsia and nervous debility, and in some cases of neuralgia, I believe it has no superior.

Until recently, its good effects have been restricted for the want of comfortable accommodation, which Mr. Frazier's enterprise has so happily afforded in his large, handsome and admirably kept establishment, for which he deserves the thanks of the invalid community, and I think will receive it in a substantial form, if we are to judge from the popular impression made during the last summer.

In the class of disease affecting the uterine organs in almost all forms, the influence of this water has been felt most happily in all the cases in which it has been used under my direction. In that deplorable form of disease of this organ, habitual menorrhagia—emptying the blood vessels and producing prostration of the muscular and nervous systems, and rendering life a miserable load—I have known more good to follow the properly restricted use of this water than from all other agents combined. The same may be said of fluor albus, both vaginal and uterine. Many certificates could be produced in support of the foregoing assertions, but as there is now a fair opportunity for verification, it would be superfluous.

I have only attempted to give *you* some idea of the applicability of the water as used and prescribed by me for the last ten years, and some of the diseases in which I have found it beneficial. Under these circumstances, you are at liberty to make

such use of it, as in *your* judgment may do justice to this new and rising establishment.

Very respectfully,

Your humble serv't,

A. P. STROTHER.

In addition to the testimony of Dr. Strother, I also give the following certificates supplied by the proprietor, and with these take my leave for the present of this beautiful establishment:

BATH ALUM, March 5, 1851.

DEAR SIR,

In the latter part of the summer of 1849, when spasmodic diarrhœa prevailed all over the country, with a strong tendency to cholera, at Bath Alum it was very violent, and out of about seventy-five persons, there were but four who escaped, and those four were the only persons who used the Alum water.

NANCY M. JOHNSON,
A. JORDON,
J. B. COWAN.

MR. J. W. FRAZIER.

BATH ALUM, March 5, 1851.

DEAR SIR,

In addition, I will state that I had very decided premonitory symptoms of spasmodic

diarrhœa, and I commenced using the Alum water freely. It acted most decidedly upon my stomach and liver, and in a few days I was relieved from all those symptoms, and I have enjoyed better health ever since. I consider it one of the best waters in any country.

Yours, respectfully,

A. JORDON.

BATH ALUM, March 5, 1851.

DEAR SIR,

Before I came to Bath Alum, about eighteen months ago, my health was very delicate. I had been a confirmed dyspeptic for many years, and had a pain in my side and breast. I commenced using the Alum water at once, and my health began to improve, and I now enjoy better health than I have done for seventeen years—all attributable to Alum water.

Yours with respect,

NANCY M. JOHNSON.

MR. J. W. FRAZIER.

BATH ALUM, March 5, 1851.

DEAR SIR,

I have been a dyspeptic during my whole life, great nervous derangement, and afflicted with piles of the worst character. I have taken

almost every kind of patent medicines, the medicines of at least one dozen regular physicians, and tried most of the mineral waters of Virginia and Kentucky. I do not hesitate to say that the Bath Alum water has been of more service to me than all else besides, and I am now in better health than I ever have been. I have been a close observer of the effects of this water upon diseases generally, and I believe in derangements of the stomach, liver and kidneys it has not its superior. For cutaneous affections of every description, it is incomparable.

My youngest child, at its birth, would not have weighed more than two pounds. It *barely existed* until it was twelve months old, when it weighed nine pounds. Nothing that was given it seemed to do it any good. I commenced giving it Alum water, and it improved from the day it was first given, and now, at eighteen months old, it is as hearty a child as ever lived.

WM. H. ALLEN.

MR. J. W. FRAZIER.

I have been very delicate for many years—being a dyspeptic, having pain in my side and breast, hacking cough, and, as I believed, having a decided tendency to consumption. My nervous system was very much deranged, and I was afflicted in other respects in a way that is very common to delicate females.

When I came to Bath Alum, it was by short stages, not being able to stand the fatigue of a day's journey. I had not used the water two weeks before its effects were most decided and happy. I am now in good health, free from cough, pain in my side and breast. For delicate females, I consider this Alum water above all other remedies.

Yours,

LAVINIA V. ALLEN.

MR. J. W. FRAZIER.

ROCKBRIDGE COUNTY, VA.

DEAR SIR,

In answer to your letter, I will say, that, for the last eight years, I have been laboring under that dreadful disease, dyspepsia, with occasional severe attacks of asthma. I visited all the Western Springs of Virginia, without relief. I heard of Campbell's Alum Spring, went there and was considerably benefited. After this I went to Brinkley's, (now the Bath Alum Springs,) where I received most decided benefit. I have been at these Springs three seasons, and I may now say, I am a well man. The water acted most decidedly and happily upon me; and I have witnessed for years, cures by the use of these waters that seemed almost miraculous, in scrofula, dyspepsia, cutaneous affections, impurity of blood, &c., &c. I do consider it one of the best medical waters in the world.

I consider the fine Bath Alum Springs and the Chalybeate as a blessing of God, sent for the restoration of afflicted man.

Yours truly,

JOSEPH BELL.

MR. J. W. FRAZIER.

BATH ALUM.

DEAR SIR,

I am now an old man and had been in delicate health for many years, and for five years before I came to Bath Alum had a chronic diarrhœa. The Alum and Chalybeate waters at this place have entirely cured me, and, for one of my age, I am now stout and healthy.

Your ob't serv't,

SAMUEL GAY.

MR. J. W. FRAZIER.

CHAPTER XX.

ROCKBRIDGE ALUM SPRINGS.

These Springs are situated in Rockbridge county, on the main road from Lexington to the Warm Springs, about 17 miles from the former and 22 from the latter. The locality is a valley between the North Mountain on the east, and the Mill Mountain on the west. The latter mountain is about 8 miles across from Millborough to the Springs; and as the road is in some places of a now unusually high grade, the drive eastward is tedious.

Some three years since, all the improvements at this place were destroyed by fire, except a few insignificant cabins and the stables. It is truly like a Phœnix, rising from its ashes, and now bids fair to offer attractions equal to many of the older Springs. The place, indeed, labors under the disadvantage of being isolated and distant from cultivation of any kind, for the land owned by the proprietor, Mr. Campbell, is very limited; the rear of his buildings is in close proximity to the possessions of another, which are as yet in a state of nature.

This is unfortunate; for, if the valley in that direction were cleared, for even half a mile, it would add greatly to the interest of the place.

The buildings for the accommodation of visiters are: The *Main House*, fronting north, 60 by 30 feet, three stories high, divided as follows: the first floor has a passage through the centre, on one side of which is a reception-room and a bar-room, and on the other a chamber. On the second floor is a comfortable parlor and three chambers, and on the third are eight chambers. In the rear is a dining-hall, 125 by 30 feet, one story, and in the rear of this are the kitchens, &c.

At each end of the Main House, but retreating from the front, is a house similar in style to the former, 40 by 30 feet, two stories, and divided into four rooms on each floor. At about 50 feet from the ends of the hotel, and forming a semicircle with it, run two ranges of cabins, six on each side, each divided into four rooms. It will thus be seen that there are altogether, or will be, (for the arrangement was not completed at the time of my visit,) 76 sleeping apartments, besides a few cabins in the rear, which, in their crowded period, are readily put up with.

The lawn, containing by estimate of the proprietor four acres, was not touched by the hand of art, but it was easy to see that it was capable of being very handsomely improved; and, with the

buildings, which are of brick and in good taste, so far as outward appearance, the *coup d' œil* promises to be very agreeable.

At the northwest of the valley, and at the eastern base of the Mill Mountain, are the basins called the Alum Springs. The hill forms here a graceful curve of almost mathematical regularity, and is about 100 feet high. It was so nearly perpendicular at some former time, that, being perhaps undermined in some degree by the mountain torrent that swept its base, and possibly after a heavy rain, or water-spout, which those showers sometimes resemble, an avalanche of the soil took place, and left denuded a stratum of clay-slate rock some 80 feet in height, with a southeastern dip. At the bottom five little wells have been cut out of the rock, into which oozes the water through the interstices of the cliff. A dry wall of sandstone supports the base of the hill, and in this are five doors opening on the wells. Along the whole front is a shed, resting behind on the wall and in front upon rude posts.

It will be recollected that in describing the Bath Alum, I stated the manner in which the rain falling above on the native bed of the soil, carried with it carbonic acid, and by its aid dissolved the alkaline substances existing in the clay slate, (for which opinion I have the authority of Liebig,) and here also the same process takes place. After a heavy shower, therefore, the humus of the soil yields more freely its

carbonic acid, by which the solvent power of the water is increased, and it is consequently found to be much stronger at such times than after some days of dry weather.

It will be found, too, on comparison of the Rockbridge Alum with the Bath Alum, that the former is clearer, owing probably to its being better filtered from the earthy particles by the deeper stratum of rock. Whether this gives it any medicinal superiority, it is difficult to decide; but in every other visible and sensible quality they are singularly similar.

Of the five wells, so far as my notes are correct, the upper one is the weakest, the second and third approach each other, and are stronger than the first; the fourth is the most powerful and in greatest demand, and the fifth is not used. From what I have already stated, it has been seen that they differ also in strength from themselves, at different times. In rainy weather the supply is abundant, in very dry weather it barely suffices for the wants of the establishment. A few hundred yards above, at the base of the same hill, there is a bold and very fine chalybeate, which in many cases, under judicious advice, may form a valuable therapeutical adjunct to this water.

It is a matter of real concern to me that I am not able to lay before my readers a reliable analysis of this water. It will be found perhaps to contain

magnesia, carbonate of potash, alumina, and possibly other salts. I was sorry to perceive in the proprietors an indifference to procuring an analysis. This, however, is an erroneous view of the case; and I hope that in the next edition of this work I shall be enabled to gratify the just desire of the public and the medical profession on this head. The water has obtained a wide-spread popularity, especially in scrofulous cases; and although it is probable its efficacy in many reputed cures has been over-rated, and I have myself seen many in which it has failed, yet there are unquestionable evidences of relief in other and numerous cases, which are sufficient to encourage this class of patients to give them a trial.

There are many cutaneous diseases, too, in which these waters may be extremely useful, and in predisposition to phthisis owing to scrofulous diathesis, I should hope for benefit from them. In diathesis of this kind, I would strenuously recommend the blending with them of the chalybeate in the proportion of about one-third. But if cough, or any physical sign of the *existence* of the disease be present, then I would not consider the addition of the ferruginous water admissible.

These waters will also be found valuable in uncomplicated menorrhagia, and in prolapsed uterus; and here I would advise a free use of it; that is, three or four times a day, in a manner which will readily suggest itself to every intelligent physician.

taste, and in pouring it from the jug after some forty-eight hours, a large quantity of vegetable flocculi fell into the tumbler. If ever I visit the Alum again, I shall certainly look out for *Jim's* Spring.

The proprietors furnished me with a number of certificates, some of which, on examination, I find to be worthy of being preserved among the *curiosities of literature.* They will be found appended, and are exact copies of the originals. If they make my readers laugh on some dreary, drizzling day, they may prove as salutary as a dose of Alum water.

NEAR LEXINGTON, May 25, 1839.

Messrs. J. & A. Campbell.

Having for several seasons visited your justly celebrated Spring, and having uniformly derived much advantage from the use of the water, I cheerfully add my testimony to its virtues, both that other invalids may profit as I have done by the use of the water, and that you may, in some measure, be rewarded for the expensive improvements and excellent accommodations you have made and provided.

My disease is chronic liver affection, accompanied with cough and dyspepsia. The water universally appeals to the liver, with gentle action on the bowels; improves appetite and digestion, and produces a general tonic effect on the whole system. I feel well satisfied that I am indebted to a large

extent to the virtues of the Alum Spring for a considerable portion of the health and comfort I have enjoyed since I tried its efficacy.

This statement is at your disposal.

Respectfully,

A. D. METCALFE.

This is to certify, that in the month of March 1835 I was distressed with pain in one of my legs, which in a short time spread to my other leg, arms and in the muscles of my neck. During the month of May following, inflamed tumors appeared on my head and collar-bone, which, upon consultation with an experienced and skilful physician, was pronounced a scrofulous disease. Subsequently tumors appeared on my right arm and left shoulder bone; which all either ulcerated naturally or were opened with a lancet. My whole frame by this time became prostrated, with little or no appetite, tumors and ulcers continuing to spread over the surface of my head. My general health became exceedingly deranged, and sometimes suffering great pain.

In this situation, after trial of various kinds of medicine, I was advised to try the Mineral Waters of Virginia. Came first to the White Sulphur, and after drinking freely of the water for eight days, came to the Hot Springs, and thence to the Alum Springs in Rockbridge county. At this Spring, I

arrived in August 1838, and commenced instantly to drink the water, and bathing the parts affected three times a day, gradually increasing in the number of glasses. Here I remained three weeks, at the expiration of which time I went to the Warm Springs in Bath county, and after a stay of about nine days, returned to the Alum Springs, where I remained about six days more, making in all about four weeks, in constant use of the water, at an average of about twenty glasses per day.

At this period, I found my general health to be much improved with decided better appetite, and the ulcers manifestly in a healing condition. On leaving these Springs, I carried with me a box of the alum rock, which on my return home I continued to use (by drinking and bathing) in a solution with common water. In October following, I commenced using a decoction of Dr. Michaels of Charleston, S. C. Then ceased drinking, but continued to bathe occasionally with the solution until the expiration of a month. Under Divine blessing, by the month of January following, after having used also nitric acid for a very short period, I found myself entirely recovered from this sad disease.

N. B. SCRIVEN,
Of So. Carolina.

This is to certify that my wife has been afflicted for several years with scrofula, and has tried differ-

ent physicians, and made use of a great deal of medicine without effect. She at length resorted to the Alum Springs, and used the water freely, both by drinking and bathing, which has almost entirely restored her.

I would, therefore, cheerfully recommend the use of the water to all suffering with scrofulous diseases.

JOHN DICKINSON.

Millboro' Springs, March 26, 1840.

I do certify that I viseted Mesers Cambels Allum Spring hunting releef for a dredful case of Dispepcy I found much releef I the next year returnd and again found much benefet indeed it wos the first releef I had found after a frutliss triel of almost all the Western Springs and I do beleeve it to be a most Vallebell Water for Scroflo's Dispepcays &c &c Given under my hand this 26th day March 1840—

JOSEPH BELL.

KNITSTOWN January 13th 1840

Messrs Camel's Sirs I Just take my pen to acknowledge the Receipt of youss of the 24th it arrived in due time I would have written to you long sence had I been Clear of the Scrofulo but the affection in my nose has not disapeared and I was Still wating in hopes that it would Give way but sence the winter Set in hard I feel the affects of the diseas

verey sensabely through my Sistom this indeed is not to be wundered at when we Reflect for a momunt that the diseas was so deeply Grounded in my sistom and of so long a standin 13 Years and that from my youth and being piostrate all most to the last Stage of life I am allmost made to wunder that I am as free from it as I am I have no doubt if it was In my Power to Spend another Somer at the Alem Spring that it Might in the hand of God be the means of Restoring me intirely from the diseas this I am Sorey to Say I Expect will be out of my power to owing to pecunearie maters times being verey hard in this countree and but littell money in Sirculation and no prospect of a Relief in that Resspect and the distence to be troveled Great withall the appendng deffeculties in the way I think I will not viset the Springs next summer I am truley sorey to think that this will be the Case as well for Your benefit as my own for I am aware that a certifficate such as I think I would be Abel to Give after spending a few more weeks at your Spring would be of infenate value to you I am as well sadisfyed that the Alum Spring would cure the Scrofulo as if I was cured now but I do not think that I could give you any Kind of a certifeCate that would benefit you under my present Cituation tho I am wel sadisfied that I have Receeved more benifit from the use of the alem watter the few week that I used it than I have don in 13 years befor from the most scilful

phesecians Times in this countree is verey hard and nothing demands cash but pork and that is at a Redesed prise about $3 pr. cwt wheat is 50 cts & corn 20 to 25 oats 12½ and not in Cash our Countree is deep in debt and Must Suffer if times does not take a change soon the health of the Countree Jeneraley Good at this season of the year and is now but when I arived home in the last of Sept I found still some inteemitent in the countree I found my wife confined with the feever But Recovering I was only Elevin days on my way home an the last day Rod 52 miles bet I look back on the last sumer as been Spent to the most benefit to me of any other of my life and would spend the next in the same way ware it in my power and I think that nothing but money maters would Prevent or the provedences of the All wise derecter of all things this we must be Reconciled to at all times and under all cercumstances my phesician and all are convensed of the Real benefit I have derived fron my sumers viset I wish to be Remembered by you all & Mrs Donel & Miss Margaret Donel With all of your own famualee have plase in my affections that will not be Remooved by a few month Absence & if I should ne'r Se you Again I wish you to no that it is my aim to so Live in this world that when done withe the Afliction of life and the Alurements of a perplexing woold that I may be crowned with them that are so fortunate to get Safe from this to the

world which is Promised to the finaley faithfull o may this be the hapey lott of all your famualee who treated me with so Much affection and Kindness while I was in a strange land and amongst strangers:

Yor's mos affectionalley

P'R BRADSHAW.

J & A, H. CANBELL.

At Millboro', half way between the two Alum Springs, is a comfortable tavern, and in its vicinity, on Stewart's creek, a very pleasant Alum water, which the landlord supplies to his guests. A short distance from this hotel, on the free road to Staunton, is a little Sulphur Spring, known as Williams's Spring.

The *Blowing cave*, mentioned by Mr. Jefferson, is a mile and a half from this place, on the Cowpasture river. It is nothing remarkable. There is, indeed, a slight movement of the weeds at its mouth even in calm weather; but a little examination of neighboring openings of similar character in the rock, will satisfy any one that the wind rushing into one of these mouths comes out at another, having passed through the cavernous rock as through a funnel.

CHAPTER XXI.

DAGGER'S OR DIBRELL'S SPRING.

Dagger's or Dibrell's Spring is situated in Botetourt county, in a pretty glade near the western base of the Garden Mountain, on the main road from Lynchburg to the White Sulphur, *via* Natural Bridge, from which it is distant about 14 miles.

I was informed by the late worthy proprietor, Charles L. Dibrell, that the number of visiters sometimes reached 200; but I should think 150 as large a number as could be accommodated with any degree of comfort. The buildings are well arranged for convenience and effect. The lawn is a very beautiful slope, descending from the hotel to the spring some 300 yards, and is well shaded by fine indigenous trees. Altogether, it is an interesting spot, and affords to the weary traveller, after a long day's journey, a sweet haven of repose and quietude, from whence he may retrace, with his mind's eye, the magnificent scenery he has just passed.

The following analysis is said to have been furnished by Professor Rogers:

Solid Contents.

Carbonate of soda,
Sulphate of soda,
Chloride of sodium,
Carbonate of magnesia,
Peroxide of iron,
Silica dissolved.

Organic matter, containing chloride of potassium, nitrogen, carbonate of lime, and carbonate of ammonia.

Gaseous Contents.

Carbonic acid,
Oxygen,
Sulphuretted hydrogen,
Nitrogen.

This analysis is of little value, and affords but slight aid towards the knowledge of the proper use of the water. It is a good deal like the Fauquier White Sulphur in its perceptible qualities, and has been found useful in a large class of diseases to which most of the other sulphur waters are applicable.

CHAPTER XXII.

FAUQUIER WHITE SULPHUR SPRING.

As the epicure leaves the most delicate morsel for the last, so I have reserved for the last place in my book the description of this most charming establishment; and having thus, contrary to my original design, entered upon the Springs of Eastern Virginia, I will probably at some future day embrace all the others, and perhaps the Bedford Springs of Pennsylvania.

On the 19th of July 1844, after an early breakfast, a horseman, accompanied by a young lady, also mounted on her palfrey, left the comfortable hotel at Fredericksburg, and crossing the bridge to Falmouth, took the road leading to the Springs. The road for several miles from Falmouth was rough and the scenery uninteresting. At the end of twelve miles they reached a very plain frame house, whitewashed, and at some little distance, looking as if the occupant had, benevolently, bored holes all over it, for those gay little annual visiters, the martens. A nearer view, however, exhibited

the reality, which was nothing more than circular black spots made with lampblack on the white-washed boards. The notion was queer; and the travellers, deeming it probable that the *Spotted Tavern* might not only serve to afford them shelter from a burning sun, but also some amusement, determined to dismount and explore the premises.

Reining up their steeds, two lusty negresses, who had been scouring the porch with all their might, came forward and took charge of the horses, and a blast from a horn soon brought up the ostler. Entering the house, the travellers were agreeably surprised by the neat appearance of every thing around them. The floor, the furniture, the snow-white table-cloth, the clean tea-things, the nice biscuits and cool, fresh butter, all, all were most inviting. The travellers did ample justice to a *second breakfast*. How refreshing it is to one, who has been living in the city, to get into a nice country house! You are so much at your ease, your spirits are calmed and tranquilized. Where, too, but in the country, can you get a draught of clear, cool water from the limpid spring or deep well?

After a day spent most agreeably, partly under a beautiful arbor, the travellers mounted for White Ridge, distant about eight miles. The view of the mountains in approaching this place was pleasing, and they had formed altogether favorable anticipations. The host and hostess were kind, but not

very well prepared to entertain travellers. The little up-stairs rooms in which they were sent to lodge were so suffocating, that throwing open his window, the elder traveller lay across his bed, with his head on the window-sill, to try and inhale a little fresh air, while his more delicate companion was suffering all the tortures which such an atmosphere could inflict. How they rejoiced at "the morning's first beam!" How hurriedly they huddled on their clothes, and descended to the porch, and looking out upon the hills, inhaled the balmy air! Here, too, they exclaimed, is the lovely country; but it is distance alone that lends enchantment—so let us mount and breakfast in *Germantown.*

The travellers *did* mount and entertained themselves by speculating on the subject of Germantown; how many stores and blacksmiths' shops and taverns were in this imaginary village. They were told that after riding ten miles they must turn off a little from the main road, and having followed directions, there suddenly burst upon their view the *Germantown Inn, alone in its glory.* It was a frame house, Low Dutch in appearance, having a neglected air, and the best looking furniture it possessed seemed to consist of white-headed children. They would have felt much more interest in it, had they then known it was the birth-place of the late illustrious Chief Justice Marshall.

But, alas! there did not seem then to be a vestige

of the refinement and cultivation that must once have graced it. In a valley at some distance there appeared to be the house of an opulent person, but with that exception, the neighborhood seemed desolate and the land much worn. I recollect perfectly a man, who was either a schoolmaster or a shoemaker, and who came with, or for the mail, and who discoursed most eloquently on all the political topics of the day. He was an ardent Whig and Clay man, and talked "like a book." The tariff, Missouri compromise, internal improvements, &c., he had at his fingers' ends—I might have said at his tongue's end—but that had no end. This man was a rich specimen of the *genus* Yankee. He asked questions and answered them to his own satisfaction, *guessed* most flippantly, knew every man's business, and seemed (in this alone he was no Yankee) to care very little about his own. His advent was fortunate, for it was the only green spot in our visit, the place being destitute of every comfort. After some rest, we mounted our horses again and reached the Fauquier Springs about noon, hungry, thirsty and exhausted.

How delightful it is, after some privations, to return again to the comforts of civilized life! Such contrasts give a zest to enjoyment unknown to persons always immersed in unintermitting luxury. After such a travel, a warm bath, a glass of lemonade, a tempting luncheon, a nice couch—how soothing, how refreshing, how exhilarating!

It appears from a report now before me, that the medicinal qualities of the Mineral Spring were known and highly appreciated in the neighborhood, long before it became an object of general resort. The resort of the neighborhood was constant and persevering, and caused such interruption to the farm operations of the former proprietors that it induced one of them to fill up the Spring; but so clearly had its value been established, that Mr. Lee was induced to purchase it, with the view to open it to the public. His experiment was at first on a small scale, but the throng of visiters soon demonstrated the expediency of more extended operations, and a greater outlay of capital. Mr. Green united with Mr. Lee in the enterprise. They have planned and executed improvements better calculated to promote the comfort and please the tastes of visiters, than are to be found at any other watering-place in the state. The buildings already constructed might accommodate 800 guests, and are so contrived as to admit of indefinite enlargement without deranging the symmetry of the plan.

The improvements are—a pavilion, 188 feet long and four stories high, with a grand portico on its western aspect, overlooking the lawn and a long line of diversified country. I have seen nothing to compare with this magnificent promenade—I mean, of course, in the country. On the eastern aspect, it was the design of the proprietors to erect a simi-

lar portico, and to connect that front with another pavilion east of it, 100 feet long and four stories high; but when the timbers were all ready, the workshop was destroyed by fire—and this part of the design remaining unexecuted, gives an unfinished appearance to this front of the *great pavilion*. Besides the two great pavilions just described, there are two large brick buildings, three stories high—two others 56 feet long each, and two stories high, and twelve other brick buildings, 56 feet long each—(all covered with slate except one,) the bath-house and the spring-house.

All these improvements and 1184 acres of land, together with a tract of 1750 acres, lying south of the Rappahannock river, were conveyed in August 1837 to a company, in 2500 shares at $68 per share, making for the whole $170,000, by the then proprietors, Thomas Green and Hancock Lee. By this company it has since been held.

The interior arrangements of the pavilions and cabins are well calculated to afford comfort. The ball-room, drawing-room, dining-room and parlors, are all spacious and suitably furnished. In the bottom of the vale (what the Romans would call *convallis*) is the Mineral Spring, suitably enclosed and protected by a pavilion.

I regret that it is not in my power to lay before the public an analysis of this water. But it is the duty of the proprietors of all those Springs to have

an analysis made, and it is to be hoped they will see their interest in gratifying the public with information so essential.

Judging from those qualities perceptible to the senses, the Fauquier White Sulphur is probably applicable to most of the diseases to which recourse is had to the Western Sulphur Springs. It is a light, agreeable water; and if not as highly charged with gases and salts as the former, it may nevertheless be very valuable as a curative agent; and indeed its reputation, acquired by an experience of its value for so many years, is the best test of its power over disease.

This establishment is now leased from the company by Thomas Green, Esq., for whom it is managed by Col. Ward, an attentive landlord and highly respectable gentleman. Its accessibility from Washington, Baltimore, Alexandria, Richmond, &c., the elegance of the improvements, the style of living, the gaiety of its society, its tournaments, its fine climate, the intrinsic value of the waters—its comfortable bathing establishment—all these ensure to the Fauquier White Sulphur a permanent and progressive patronage.

It is now some years since I have been at the Fauquier White Sulphur, and I write, in some measure, from memory, of what I saw during a brief visit. It is, however, a place not easily forgotten by one who claims to admire every thing

beautiful in nature. It is capable of still higher improvement, and no doubt will one day or other be much more extended than it is at present.

The grounds are beautifully laid out, and diversified by walks, flowers and shrubberies. A true mark of taste in the arrangement of public grounds, is the study of convenience. Here, from the centre of the pavilion to the spring, there is a grand walk, the sides of which are richly ornamented with flowering shrubs, and diverging from it are numerous serpentine walks leading to the cottages that complete the semicircle. On the main avenue, there is a pretty fountain, in which are seen beautiful *gold fish*, displaying their burnished sides in the bright rays of the sun for the amusement of the visiters, especially the children and nursery maids.

A pamphlet on the "Fauquier White Sulphur Springs," published by my intelligent and esteemed friend, the Rev. T. STRINGFELLOW, has just come into my hands, from which I take the liberty of quoting copious extracts. They will be appreciated by all who know the man and the benevolence by which he is characterized:

"For many years it has been your delight to contemplate the goodness of God. The most glorious manifestation of his goodness is seen in the provision he has made for the moral maladies of our race." * * *

"The next most impressive source of his good-

ness is the provision he has made for the relief of our physicial maladies. What is wealth and all its attendant blessings when health is gone? and how impressive when fever rages, when pain distracts, when universal disorder threatens the citadel of life, to realize the goodness of God in providing for us some controlling agent that can vitalize the sinking energies, re-establish order in the deranged economy, and restore to us again the feelings of health and comfort.

"But of late years I have been pained in contemplating an immense amount of suffering in our country, for the relief of which the healing art has discovered no remedy, and the number of such sufferers is painfully on the increase. Persons of all ages and habits are found in considerable numbers in every locality, who know not what it is to breathe in comfort; and, what is worse, they are strangers to the hope inspired by medical science or skill, that they can ever again enjoy the pleasure which health gives. It has seemed impossible, of late years, to secure for our offspring, under any system of training, more than a moiety of perfect physical development; and it originates in causes which we can neither detect nor control. For many years I have been in that class of unfortunate sufferers, for whose relief science holds out no hope. My sympathies, therefore, have been keenly enlisted in behalf of all such; and I am no doubt in a condition to be doubly im-

pressed with any special manifestation of the Divine goodness to this class of suffering humanity. During the past summer I was led to try the virtue of remedies prepared immediately by the hand of God—I mean our mineral waters. While using them at different fountains, I was associated with many of various ages and modifications of physical derangement, who, like myself, were strangers to the hope inspired by remedies which were known to relieve. Under such circumstances to witness prompt relief, as I did in many instances, to sufferers deemed hopeless in the walks of science, left on my mind an impression of the Divine goodness never before realized. To be silent, therefore, while so many hopeless sufferers are strangers to this merciful provision of a gracious God, would be sin. It ought to be made known. Jesus has connected with the cure of the soul a knowledge of the remedy, and to proclaim the remedy is a first duty of every spiritual beneficiary. The physical beneficiary should feel an obligation to proclaim the only remedy known on earth, capable of relieving so large an amount of physical suffering as now crowds around us on every hand. I think that more than half the suffering of our country is of a character which men of science and skill regard as beyond the reach of remedies known to the medical profession. For this class of sufferers our mineral waters hold out hope." * * * *

"Actual experience shews that virtue has been infused, by the Almighty hand, into the mineral waters of our state, which, if skilfully used and called into requisition in due time, would make them equal to the cure of perhaps every form of chronic suffering known among us.

"These healing waters gush forth from the laboratory of God in three separate and distinct mountain ranges of this good old commonwealth. The most numerous cluster of fountains is that in the Alleghany or western range. Around the White Sulphur, in Greenbrier county, and within some forty miles of it, there are about fifteen springs fitted up for invalids. These springs gush out on either side of the Alleghany ridge, or back-bone of North America. The next cluster of springs is that found in the Blue Ridge or middle range of mountains; there is quite a number of springs that are improved for the accommodation of the public in this range. The last cluster of springs is that found around the White Sulphur in Fauquier county. Within twenty miles of this tastily improved fountain there are some twelve other springs known to myself, and how many more I know not.

"Some fountains in the Alleghany range are considered most potent in particular forms of disease. Those in the middle or Blue Ridge range are winning celebrity every day, as their sanative powers are developed. The fountains which have been

tested by experience on the eastern range, combine in an eminent degree the qualities of both the others.

"The adaptedness of any one of these various fountains for the cure of particular forms of disease has been ascertained by experience, and in no other way. While science has labored, and with great success, to ascertain their saline and gaseous contents, yet the reason why they cure is a mystery —because science has discovered nothing, either in their saline or gaseous contents, that will account for the cures they daily effect.

"Experience testifies that none of them are adapted to the cure of acute disease, and that all of them are adapted to the cure of chronic disease.

"How they act upon the human system, and why failures take place among those who seek relief in the curable classes of sufferers, has been for years the subject of close observation by a few scientific men residing at some of the springs in the Alleghany range. In conducting these observations much valuable knowledge has been gained as to the best plan of securing the benefit which these waters are capable of affording." * * *

"The springs of the middle or Blue Ridge range, are returning multitudes of joyful beneficiaries to their friends every year, made whole by their untold virtues.

"Until lately it has not been known abroad that

in the springs of the eastern range such a power had been infused by the hand of our Creator for the relief of suffering humanity. The geological belt out of which these springs gush is a slightly elevated mountain range. On an average its width is about twelve miles; its length is co-extensive with the Blue Ridge. And at the cluster of springs around the Fauquier White Sulphur, it is about midway between the Blue Ridge and the head of tidewater.

"This geological belt, for the salubrity of its climate, the natural fertility of its soil, the beauty of its landscape, and the bland and elegant manners of its inhabitants, has no superior. This range is based on lime, magnesia, iron, copper, sulphur, alum and coal. The springs of this range at and around the Fauquier White Sulphur for more than half a century have been giving relief to hopeless invalids, laboring under various forms of chronic suffering; and more hopeless cases were never relieved. The healing power of these waters upon those struggling cases, always created, for the time, a measure of astonishment, which nothing short of miraculous power could exceed. And yet these waters lay in neglect, and were scarcely known out of their immediate neighborhood, until that distinguished and enterprising gentleman, Mr. Thomas Green, determined to make provision for the accommodation of the public, at what is now known as the

Fauquier White Sulphur Springs. For beauty of design, and elegance of execution, this establishment has never been equalled at any watering-place in our country." * * * *

"The power and adaptedness of the Fauquier White Sulphur water for the cure of diversified forms of chronic suffering is truly surprising, and certainly furnishes a rational ground of hope to thousands who are in hopeless conditions of suffering." * * * * *

"This water makes a sensible impression on all who drink it fresh from the spring; yet the number of patients unable to use it with profit, in its fresh state, is very small; indeed, it is not certain that there are any, thus shewing a peculiar adaptedness in the water to the diseased system in its various modifications, which is remarkable, and which is known not to exist in some of the other Springs.

"I have classified the various cases reported, under the medical names by which the diseases are generally known. In this way they can be more readily referred to by those interested in examining the list. I begin with dyspepsia, because it is by far the most common form of chronic suffering on the Atlantic side of the Union. I have selected out of an untold multitude of cases of this disease a few only; they are cases of prominent individuals. I selected the cases of *such individuals*, because, in the first place, they had every advantage in securing

the best medical aid; and, in the second place, they were individuals who had the disease in such intensity as to baffle the best efforts which science could make for their relief." * * *

Dyspepsia.

"Case 1st.—The first case I will notice of this disease was one that perhaps could not be surpassed in intensity. It had baffled the highest skill of the Union for some years. The subject was Mr. Lawrence, (now dead,) principal of the Rappahannock Academy. He had tasted flesh, previous to his arrival at the Springs, but once in three years, and that a piece of mutton, which threw him into spasms. His suffering was very exquisite. His flesh had wasted away; his digestive powers were barely sufficient to preserve life.

"He was brought to the Fauquier White Sulphur Springs, and used the water. In a very few days he was the subject of appetite; relieved of pain; digesting his food well; sleeping sweetly; and in two months had gained forty pounds in weight, and possessed the physical energy which led him to prefer, in returning home, a walk of forty miles on foot, that he might shew his friends in Fredericksburg that he was well, sooner than to return in a carriage or on horseback.

"Case 2d.—The second case of dyspepsia that

I will notice is that of Mr. Waldie of Philadelphia, (author of 'The Library.') He was the subject of this disease in its most hopeless form. All that skill could do in that city of medical fame was done to restore him. According to his own statement, the remedies used did not prove to be even palliatives.

"He came to the Fauquier White Sulphur, used the water, and began at once to improve. Food was soon gratefully received; the nervous system soon became quiet; rest proved to be refreshing; strength went up rapidly; an equal circulation was soon obtained; the secretive organs soon performed their functions well; the *energizing* and *alterative* power of the water triumphed, and before he was well aware of it he was in health, and so remained.

"Case 3d.—The third case is that of a lady, who, soon after her marriage, in a state of fine health, became a dyspeptic, and in many other respects the subject of great physical derangement. An eminent physician gave her his constant attention; and, in addition, consulted with the most eminent skill of the Union as to the best course to be pursued for her recovery. It was all unavailing; and the conviction was forced upon her medical adviser, that human means could not save her. He then advised a trial of Fauquier White Sulphur water. She was brought to the Springs, and her physician, upon her arrival, assured the superin-

tendents that if she had slept five minutes in three weeks, it was not known to any human being. One glass of water was given her on the evening of her arrival; in twenty minutes after drinking it she was in a sweet sleep, from which she did not awake until the next morning. From that time she suffered very little distress of any kind; in less than a month she was, to all appearance, in health, returned home, and the first drink of common water she took threw her into spasms; she returned to the Springs again—was at once relieved—and, to confirm her health, remained at the Springs for some time. She then returned home again, and has enjoyed fine health ever since—a period of several years.

"Case 4th.—The subject of this notice was a female, twelve years old, the daughter of an eminent physician, of enviable reputation as a man. In describing her case he says: 'She was of cheerful temper and active habit, having previously enjoyed good health;' that 'in the summer of 1834 she was attacked with symptoms of dyspepsia;' that 'for some months the disease made but little progress,' and that he 'flattered himself,' during this time, 'that her age, a good constitution, with the usual palliatives, would soon restore her to health;' but that, after this, 'the disease made fearful progress;' that 'flatulence, oppression, and pain in the stomach, were always present after eating;' that 'emaciation

and depression of spirits kept pace with the other symptoms;' that 'several of the most eminent physicians were consulted. That carminatives, opiates, anti-spasmodics, anti-acids, (recommended for a most distressing symptom in her case,) were all tried, without relief.' That, 'in about nine months she was literally a skeleton; that nothing could now be taken into the stomach without producing great agony; that everything solid or fluid, whether medicine or food, was equally certain to produce this effect; that her suffering became so extreme, she determined to starve herself to death; that this design was counteracted by nourishing enema, until she was persuaded to try food again; that, after this, large doses of the tincture of valerian, sweet oil and paregoric rendered a little food *tolerable*, until she was taken to the Fauquier White Sulphur Springs; that her arrival made an impression upon all who saw her, that will never be forgotten.' He says, in conclusion, 'her convalescence was immediate and rapid; that in a few weeks she returned home free from disease, and continues in the enjoyment of excellent health.' This statement was made three years after her recovery.

"Case 5th.—The subject of this notice is a gentleman well known at the Fauquier White Sulphur Springs. He was afflicted with what his physician called liver complaint for twelve years. After the first five or six years they frequently called it dys-

pepsia. He employed in all ten physicians; and the most of them were gentlemen *distinguished* for medical skill. During all this period he was wasting away, and became more and more diseased in his general system. His stomach would scarcely receive or retain food enough to keep him alive. He was a great sufferer in various forms. Nothing administered by his physicians made any impression whatever on the disease. He was *providentially* led to use Fauquier White Sulphur water, and felt improvement immediately; he continued its use, and was soon well, and continues, after the lapse of several years, as fine a specimen of health as can be found in any country. This gentleman, for several years, could span his thigh with one hand; but soon after commencing to use the water he received an accession of fifty-two pounds of flesh. This case originated in, or rather followed, a severe attack of bilious fever.

"Case 6th.—This is a case which was reported to me by a gentleman of great intelligence and of the highest respectability. He witnessed the cure many years ago; and although he could not remember the name of the subject, yet, such was the condition of the patient, and the impression made upon his mind by the cure, that he urged me to publish the general facts. The subject of the cure was a youth of about eighteen, of the county of Prince William, brought to the Fauquier White Sul-

phur Springs by his mother, who was a lady of intelligence, and who had availed herself of the best medical assistance in behalf of her son, without any benefit. He says that such was the emaciation of this young man that his mother handled him in her arms as an infant, and that of all the hopeless cases he had ever seen, this was the most hopeless. He drank the water, and in something like a month he was restored to perfect health." * * *

Dropsy.

"I felt anxious to ascertain the degree of encouragement held out by the Fauquier White Sulphur water in dropsies, and having been enabled to learn with certainty the character of the following cases, and the result of its use in each, I will give the information to the public—omitting others not less remarkable.

"Case 1st.—This is a case which was given to the public by the subject of it many years ago. It is the case of the late Hon. Benjamin Watkins Leigh, of Richmond, Virginia. This gentleman was known to the nation and to the world. In the midst of his honors and usefulness he was attacked with dropsy. All that skill could do was tried in vain. He was brought to the Fauquier White Sulphur when very low. He arrived in a snow storm. During his whole stay the weather was wet and

cold. After using the water about two weeks he found his bandage getting looser; it was drawn up tighter; it soon became loose a second time, and was tightened again; and so, in a very imperceptible manner, the dropsical water was known to be escaping. In about four weeks he felt well enough to return home, but was not entirely well. The cure, however, progressed, according to his own published statement, until in a short time he was perfectly relieved from the disease.

"Case 2d.—This case is that of a lady of the highest respectability, in the county of Fauquier. She was the subject of dropsy, and of a highly diseased condition of the kidneys. Her suffering was very great. She had the best medical advisers. They taxed their skill perseveringly until all hope of being able to relieve her was extinguished, and one of them was deputed to tell her husband so. She then tried the Fauquier White Sulphur. Improvement commenced immediately, and progressed steadily, until she was restored to perfect health, which took place in a short time. The following year she experienced a slight attack of hæmorrhage of the kidneys, which by two weeks' use of the water was entirely removed; and until this day—a period of some fifteen years—she has remained a specimen of perfect health.

"Case 3d.—The third case is that of Mrs. Robert Mackey of Fredericksburg, (now no more.)

Hers was a very hopeless case; the collection of water was very great. She used the water of the Fauquier White Sulphur a little over two weeks before any decided impression was made on the disease; but that impression, when made, was a remarkable one; in one or two hours several gallons of water were dislodged. In about one month from that time she left the Springs perfectly cured.

"Case 4th.—The fourth case is that of a lady of the highest respectability, in the immediate neighborhood of the Springs. After a patient and persevering effort by eminent medical gentlemen to relieve her, (until hope on their part was extinguished,) she was induced to use the Fauquier White Sulphur water, (brought to her in bottles.) Improvement commenced immediately, and progressed without intermission until she was restored to perfect health. I know of no finer specimen of health than she now is, after a lapse of some sixteen or eighteen years.

"Case 5th.—This is the case of a distinguished lady from the state of Maine. She was about fifty years of age; had survived an attack of dropsy about twenty years before, from which the skill of the profession relieved her; but an effort of five or six months had demonstrated in this attack the utter impotency of the highest skill of the Union to do her the least good. She came to the Fauquier White Sulphur; used the water; felt a comforting influence at once; in two weeks a decided impres-

sion was made on the disease; in a few weeks more she was in perfect health, which she still enjoys.

"Case 6th.—This was a worthy man, in the humbler walks of life, who had been under the constant attention of a distinguished medical gentleman for five months—who, perceiving that he could not arrest the disease, advised his patient to try the Fauquier White Sulphur water. This man was about the meridian of life, and of good constitution. In something less than two weeks a large deposit of granular matter, as if tinged with blood, was discharged from the kidneys; from this time the dropsical water was perceptibly escaping; the symptoms rapidly improving; and in about two weeks more he considered himself well. But surely it is great imprudence to leave the Springs in such a case until a cure is confirmed, when there is something like certainty that it will be realized.

"Case 7th.—The subject now referred to is a gentleman of great respectability, who was considered by all his acquaintances to be in a dropsy—yet he refused to employ science. The gentleman who reported this case to me is one among the most amiable, intelligent and respectable gentlemen in the state. He stated that such was his solicitude for the subject of this notice—who was his particular friend—that he used all his influence to induce him to visit the Fauquier White Sulphur Springs. He succeeded in doing so. The patient remained

at the Springs, and used the water but five days—being compelled, as he thought, by the state of his business, to leave at that time. The gentleman who vouches for this case stated to me that improvement commenced with the first drink of the water—went on rapidly during the five days of his stay, and progressed after leaving the Springs, until in a very short time he was entirely relieved of all symptoms of the disease.

"Case 8th.—This is the case of a lady about fifty-five years of age. When she reached the Springs—having none to guide her—she drank the water too freely. It salivated her and made her very sick. She determined to leave as soon as well enough; but was afterwards induced to remain, and try the water in more moderate quantities. She then mended very rapidly, and soon thought herself well enough to leave the Springs, and did so, contrary to the earnest entreaty of all her friends. She relapsed, and then returned to the Springs, and in a course of hopeful improvement left again; and in returning home was overtaken in a storm, took cold, relapsed and died. This and other similar cases should admonish all who seek health at mineral waters to be patient and persevering in the course they pursue to obtain it."

Diseases of the Kidneys.

"For diseases of the kidneys some of the Alleghany Springs are looked to as being peculiarly adapted. I was particular in searching for reliable information as to the action of the Fauquier White Sulphur water in this form of suffering.

"Case 1st.—The first case which I will report is that of a gentleman well known in the city of Richmond. In addition to a disease of the kidneys, he had a weak breast, and was threatened with consumption. For this reason his medical advisers were afraid for him to use sulphur water; but being hopeless of relief, after persevering efforts had been made in his behalf by medical skill, he visited the Fauquier White Sulphur Springs, and in a very short time was the happy recipient of a perfect and abiding cure.

"Case 2d.—The subject now referred to is a gentleman of high standing and intelligence, who has been favorably known in our public councils, and of the most sterling integrity and conscientiousness. He is about fifty years of age. He informed me that for many years his kidneys had been diseased; that he had had frequent and violent attacks, attended with great pain; that deposits of blood and corruption were discharged in these attacks; that they were soon followed by inflammation and

fever; that medical skill had furnished palliatives, and nothing more; that in the intervals between his attacks, aching and distress (more or less severe) were always present; that on his first visit twenty-four hours' use of the Fauquier White Sulphur water entirely relieved him from all sense of the disease; that subsequent attacks had been few and far between; that they had abated in intensity at each subsequent paroxysm; and what is most remarkable, the water entirely relieved each attack in two hours from the first drink. Another remarkable fact in his case is this, that he never used the water more than one day at any one visit to the Fauquier White Sulphur Springs.

"Case 3d.—This is the case of a gentleman venerable for age, and distinguished through life by public honors and private virtues. He informed me that his life had been prolonged and made comfortable many years by the Fauquier White Sulphur water for a hæmorrhage of the kidneys.

"Case 4th.—This is the case of a gentleman of intelligence and the strictest integrity. He informed me that for years he was the subject of constant disease, attended with painful sensations in the kidneys and kindred organs; that medical treatment had afforded no palliation to the distress. He used the Fauquier White Sulphur water; was very soon relieved entirely, and has felt nothing of the disease since—a period of several years.

"Case 5th.—This is the case of a lady of distinction, who had been previously relieved of the dropsy by the Fauquier White Sulphur water. About one year after her recovery from the dropsy, she was attacked with a hæmorrhage of the kidneys. The use of the water a short time entirely relieved her, and she has been distinguished for the best of health ever since—now a period of several years."

Chronic Diarrhœa.

"This is a form of disease not very common, but often very unmanageable. I was gratified to learn that cases of the worst type had been submitted to the action of the Fauquier White Sulphur water, and that the result was most gratifying.

"Case 1st.—The first case which I will report was that of a gentleman of about sixty-five years of age, of good constitution, and belonging to one of the old and venerable families of our state. He was attacked with dysentery, which ran on for something like a year, when it assumed the form of chronic diarrhœa. In this form it ran on for the next six months. During this period he was in the hands of eminent medical men. His physicians, unable to arrest the progress of the disease, called to their aid the highest skill that could be commanded. The result was, a conviction that, in a

very few days (at most ten) the patient must die. Just at this stage he was brought to the Fauquier White Sulphur Springs, in the month of August. He used the water; in about two weeks a decided impression was made on the system; in about two weeks more the patient was well, and has so remained for several years.

"Case 2d.—This was a respectable gentleman, now living—a member also of one of our old and venerable families—who was about seventy years of age at the time. After the disease was well defined, and science had labored in vain to effect relief, and all hope of recovery was abandoned on the part of his physicians, he was brought by their advice to the Fauquier White Sulphur Springs in the month of February. He used the water; in the first two weeks his system fully acknowledged its alterative power; in two weeks more he was well, and so remains, after a lapse of several years.

"Case 3d.—This is the case of a man in moderate circumstances, but of amiable character. He was the subject of chronic diarrhœa in its most virulent form. Early in the spring of the year—when very low—he was brought to the Fauquier White Sulphur Springs. He used the water. For about two weeks its alterative power was manifested, but with much discouragement to the patient, until its energizing influence began to be felt; after which, in two weeks more, he was made whole, and so remains, after a period of several years."

Female Complaints.

"The effect of the Fauquier White Sulphur water on such derangements of the female system as often baffle the highest skill of the profession, is truly gratifying. To see the lovely buds of spring, just as they begin to shed their fragrance upon the surrounding atmosphere, and the trees of autumn, just as they have borne their full crops of rich fruit, sicken and die, in spite of all the attention which skill and experience can render, is painful in the extreme. I will only add that I have been favored with testimony the most unquestionable, that the Fauquier White Sulphur water acts like a charm in aiding *nature* speedily to accommodate herself to the intentions of the great Architect of the human system. Thousands would resort to these waters, were they but apprized of their alterative power and vitalizing energy."

Chronic Rheumatism.

"The Fauquier White Sulphur water, drank and used as a warm bath, is to be relied on as much, perhaps, as any other water in this distressing affection. I witnessed its effects with admiration and pleasure."

Affections of the Lungs.

"Tubercular consumption is not considered to be curable, but a great deal passes for consumption that is admitted to be curable. Various cases, supposed to be consumption, have been entirely and speedily relieved by the Fauquier White Sulphur water. Cases of this kind, and of a very hopeless type, have been cured by the use of this water almost as far back as the memory of man reaches."

Eruptions of the Skin.

"Tetter in its worst form, and other eruptions of the skin, have yielded very readily to the action of this water, and especially when used externally as well as internally."

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VALUABLE BOOKS,

And beg to invite attention to the accompanying NOTICES OF THE PRESS of

HOWISON'S HISTORY OF VIRGINIA,

AND OF

WORCESTER'S PIANOS.

Tate's Digest of the Laws of Virginia, 1 vol. 8vo.

Tate's Analytical Digested Index of the Virginia Reports, 2 vols. 8vo.

Tate's American Form Book, 1 vol. 12mo., price $1.

Joynes on the Statute of Limitations, 1 vol. 8vo.

Call's Reports—Reports of cases argued and decided in the Court of Appeals of Virginia, by Daniel Call, vols. 4, 5 and 6.

The Statutes at Large of Virginia, (new series,) from October session 1792, to December session 1806, inclusive, in 3 vols.

Supplement to the Revised Code of the Laws of Virginia, being a collection of all the Acts of the General Assembly of a public and permanent nature passed since the year 1819, with a general Index, to which are prefixed the Acts organizing a Convention, the Declaration of Rights, and the amended Constitution of Virginia.

Tucker on Pleading.—The Principles of Pleading by B. Tucker, Professor of Law in the University of William & Mary.

Robinson's Forms—Forms adapted to the practice in Virginia, by Conway Robinson, vol. 1, containing Forms in the Courts of Law in Civil Cases.

Robinson's Practice—The Practice in the Courts of Law and Equity in Virginia, by Conway Robinson, vol. 3—vols. 1 and 2 *out of print.*

Modern Probate of Wills—Containing an analysis of the Modern Law of Probate in England and America, with numerous references to the English and American cases, and copious extracts from the leading cases.

Tucker on the Science of Government.—A series of Lectures intended to prepare the student for the study of the Constitution of the United States, by Beverley Tucker.

Burke's Latin Grammar.—The Rudiments of Latin Grammar, founded on the definitions and rules of Thos. Ruddiman, to which is annexed a complete system of Prosody, by Wm. Burke, Principal of the Richmond Academy.

Dew's Lectures.—Lectures on the Restrictive System, delivered to the Senior Political Class of William and Mary, by Thos. R. Dew, Professor of History, Metaphysics and Political Law.

Howison's History of Virginia, 2 vols. 8vo. $4 00.

Virginia Selection of Psalms and Hymns, and Spiritual Songs, by Elder Andrew Broaddus, 1 vol. 32mo. price 50 cts.

Dover Selection of Spiritual Songs, with an Appendix of choice Hymns, compiled, by the recommendation of the Dover Association, by Andrew Broaddus.

Crozet's Arithmetic—An Arithmetic for Colleges and Schools, by Claudius Crozet, Principal of the Richmond Academy, late State Engineer of Va., and formerly Professor of Engineering at West Point, price 37½ cts.

Howison's History of Virginia.

The object of this work is to present a continuous view of the career of Virginia from her discovery and settlement to the present time. It is not a collection of anecdotes, but a History, compiled upon the best evidence, and giving references to the authorities on which its statements have been founded. The volume now presented contains the Colonial History, and as such it is complete in itself. Since its appearance in November 1846, it has been frequently noticed by the press, both in Virginia and elsewhere, and from these notices the following selections have been made:

[From the Norfolk Herald.]

HISTORY OF VIRGINIA, BY ROBERT R. HOWISON.—A perusal of the first volume of this new work justifies us in speaking of it in the most approving terms. It is well written, and shews its author to be extensively and familiarly acquainted with universal history, and gifted with the talents for converting the dry materials furnished by his predecessors into a most interesting and *readable* narrative, adapted to the popular taste. The style is easy, indeed elegant; and the reader, imbibing the author's turn of reflection and comment as he proceeds, becomes interested in its pages without being aware that he is travelling over the musty records of history. Like a skilful lawyer, the author hears the evidence of Stith, Beverley, Burk and others, and combines and illustrates the whole in his own peculiarly happy and graceful manner. We shall present our readers occasionally with extracts from the volume, from which the character and merits of the work may be deduced.

[From the Petersburg Intelligencer.]

We are indebted to Mr. E. P. Nash for the first volume (containing two parts) of Howison's History of Virginia, which has just issued from the press of Drinker and Morris. And upon as careful a perusal of its contents as our numerous other engagements would permit, we feel no hesitation in, at once, bearing testimony to the zeal and ability with which its author has executed his task. A work of this kind has long been considered a great desideratum in our literature, and Mr. Howison appears, with much research and discrimination, to have availed himself of every reliable source of information that would impart the least interest or value to the subject. His language, too, is generally smooth, graceful and vigorous. Its importance, however, can only be properly appreciated by an examination of its faithfulness and of the valuable materials incorporated into it.

[From the Fredericksburg Virginia Herald.]

The want of a good history of Virginia has long presented an inviting field for the enterprise and talent of some of her gifted sons. The older histories, besides their many striking defects, are nearly out of print, and are not to be easily obtained. We are happy, therefore, in being able to announce the appearance of the first volume of the work whose title stands at the head of this notice. It embraces the colonial history of the state from its earliest discovery to the peace of Paris, in 1763. A hasty perusal of the volume has afforded us the most unaffected pleasure and gratification. The author has executed his task well, and more than satisfied the expectations of his most partial friends. The work is gotten up in beautiful style. Its inviting exterior, fair pages and large distinct type, are all that could be demanded by the most fastidious reader, and reflect credit on the press of Drinker & Morris, from which the book has issued. We are confident that no one who takes up the work will be satisfied to lay it aside without a thorough perusal. All the leading events are brought conspicuously forward in due shape and proportion, and in a liveliness of style which invests the narrative with all the absorbing interest of a work of fiction. The author has given a fair opportunity of doing away the reproach, that "the young men of Virginia remain more ignorant of the career of their own state than of Greece and Rome." We are sanguine in the hope that the people of Virginia, to whom the work is dedicated, will not fail to appreciate the merits of the young author, whose earliest enterprise reflects so much credit, both on them and himself. We trust that the extensive circulation of this volume will prove a grateful stimulus for the early completion of the remainder of the proposed task.

[From the Alexandria Gazette.]

We have read with attention, and we will add with great pleasure, the published volume of the History of Virginia, by Mr. Howison. We should have preferred that the entire work had been presented to the public, instead only of a portion; but the part now given us brings the History down to a convenient resting place, and furnishes at least proof of the style, industry and ability of its author, and gives us assurance that its completion will be successfully accomplished.

The narrative is pleasing, the style flowing, and the reflections are, for the most part, judicious. That there are not faults in the composition we will not pretend to say—some we think we could easily point out; but it is not our intention at this time and in this place to enter into an extended criticism. Mr. Howison has not in his history the beauty or grace of Irving in his Life of Columbus, or the "majestic march" of Prescott in his Conquest of Mexico. But it does not deteriorate from his merits to say, that in falling behind these two distinguished writers, he has yet given us a work which, in many of the requisites of a history, is worthy of all praise, and at once allows him to be classed as a scholar and a man of talent.

Mr. Howison's work supplies a vacancy that we are glad to see filled. The former histories of Virginia were not such works as the subject demanded, and were fast falling into neglect and oblivion. The people of Virginia can now read and preserve with pride and pleasure the romantic story of the settlement of their state, of the privations and hardships of the founders of the commonwealth, of the toils and sacrifices of those who built up what had thus been founded, and of the progressive steps that had since been made in the path of prosperity and renown. They will find all this here painted on the canvass of history by a pencil free and glowing, but yet sufficiently chastened to the realities of the scene.

[From the National Intelligencer.]

We have received through Mr. F. Taylor, the first volume of a new History of Virginia, by Robert R. Howison, from the discovery and settlement of that state, in 1607. This volume brings the history down to the peace of Paris, in 1763, and future volumes will continue the history to the present time. A glance at the contents of this volume impresses us very favorably as to its style.

[From the Lynchburg Virginian.]

We took up this volume with great curiosity, and, we may say, with some anxiety. It is from the pen of a young friend whom we have known from childhood. We considered the attempt an ambitious one for a writer unknown to fame, and we feared we might have to temper our critical judgment by considerations of personal kindness. In this we have been most agreeably disappointed. Its literary execution and general merits require no forbearance of the critic on account of private feelings. It is but very inadequate praise to say, that it is incomparably the best History of Virginia that has yet appeared. The style is neat, correct and perspicuous, yet easy and flowing—there are but few efforts at fine writing. The narrative is generally concise, and the reflections are such as do honor to the head and heart of the writer. His object appears to be the truth. He belongs to the modern school of historians, whose aim is, not to pervert or invent incidents to support a theory or a party, or to whitewash a dynasty, but to investigate and record facts as they occurred. Though he indulges in reflections and speculation, he writes with a solemn sense of the obligations resting upon him to reach the truth wherever it is attainable, and to this end his references shew a careful examination and collation of authorities.

With this cordial tribute to the merits of the work, we need scarcely say, that we do not always agree with the author in his views; but the limits of a hasty notice of this kind preclude the possibility of a detailed examination or specification of the points in which we dissent from his opinions. We pronounce the work creditable to the author and to the literature of the state, and we

hope he will proceed with deliberation in the preparation of the second volume. He will find it more difficult to give an impartial narrative of the events of the last twenty years, than a true one of the early career of the colony.

[From the United States Gazette—Philadelphia.]

The above is the title page to the first volume, the only one yet published, of a History of Virginia, which has strong claims to sterling merit, both for its impartiality and the knowledge which the writer has brought to his task. There is so much of the romance of our national history connected with Virginia, her influence has been so strongly felt in the administration of public affairs, and she is the mother of so many of the great statesmen of the nation, that her history becomes a fountain of instruction as well as of enjoyment. If Virginia has been outstripped in growth, wealth, numbers and influence, by younger states, her past history stands eminent; and we are glad to see that an able pen and an experienced and mature mind has accepted and partially performed the task of recording the character of the various phases of her existence as a colony and as a state, down to the present time.

We have read the volume more hastily perhaps than we ought, and have been pleased with the agreeable ease and perspicuity of his style, his evident learning and research, the deductions founded on masses of facts, and his evident honesty of purpose in narration. It has been a work of labor to Mr. Howison, and a great one, but he evidently delighted in it, and the results of his labor deserve to be a reward in the eminent consideration in which they will be held.

[From the New York Commercial Advertiser.]

Howison's History of Virginia.—This work, if successfully carried out, will prove a valuable addition to our national records. In this volume Mr. Howison carries his history down to the peace of Paris in 1763, and in a succeeding volume it is proposed to continue the narrative to the present time. We observe, however, that there is a degree of uncertainty as to the time, at least of the appearance of the second volume, expressed by the author, the which is more to be regretted, as recently we have heard many enquiries for a work on the present condition, &c. of the state of Virginia. With its earlier history all intelligent persons are more or less familiar, but this volume of Mr. Howison's throws much additional light thereon, he having had access to rare manuscripts and other private sources of information.

[From the Philadelphia Saturday Courier.]

The author of this history, who is a worthy son of the "Old Dominion," has evidently perused the records of his native state with the eye of a philosopher and the reflection of a sage, and

transcribed her story with the pen of a poet and a scholar. Virginia is not only one of the oldest, but has been one of the most important states of the confederacy, naturally, socially and politically; and she has here evidently an historian whose enthusiasm, tempered with judgment, lucid diction and eloquent descriptive powers, cannot fail to win him the attention and thanks of his countrymen. We have read deeply into the "History," attracted by the thrilling narratives and romantic incidents of the volume, the hardships and trials of the early colonists, the treachery and cruelty of the aborigines, and especially that of the wily and fiendish Opecancanough and his murderous band. The apostrophe to Columbus, in the opening chapter, is a beautiful tribute to the memory of the great world discoverer.

[From the Richmond Republican.]

HOWISON'S HISTORY OF VIRGINIA.—While we have neither the time nor the ability to enter upon a regular *critique* of this work, we deem it due to the importance of the subject, to give it such notice as our own observation, justified by the better judgment of others, will enable us to make.

That there has been an imperious necessity for a work like this, will be readily conceded. Mr. Howison quotes in his preface a remark of great truth, that many of the youth in Virginia are more ignorant of the history of their native land than of that of Greece and Rome. And yet to be ignorant of the history of Virginia is to be ignorant of the history of one's own country—not alone of the State, but of the Republic. It is to know nothing of one of the chief fountains of that broad stream of republicanism which now covers the land, and to which we are indebted for all the political blessings we enjoy.

Many histories of the commonwealth have been written, such as those of Smith, Beverley, Keith, Stith, Burk and Campbell, to which Mr. Howison refers, but which, as he adds, are entirely out of print, or so nearly so that they cannot be obtained without much difficulty. A new work is needed by our youth, one which is drawn from the best authorities and written with clearness and system. Such a *desideratum* is supplied, we think, in this volume of Mr. Howison. He has carefully examined the evidence, both in print and in manuscript, upon which his statements of fact have been made. He has had the aid of several gentlemen, who have placed rare books and manuscripts in his hands, and has enjoyed full access to the library of the state, and the office and records of the general court. With such means of information and ordinary discrimination and industry, we do not see how it would be possible to produce any other than an instructive and edifying history.

But Mr. Howison has done more. Bringing to his labors the qualities of a fine classical scholar, and a chaste and practical writer, he has invested his subject with the attractions of a clear, beautiful and attractive style, rendering the solid facts which he presents

palatable even to those whose tastes have been accustomed to the whip-syllabub of novel and romance. It is a book which the young will find interesting as well as instructive, and hence we hope it will be placed in their hands by all parents and guardians, because once there, we are quite certain that it will secure an attentive perusal.

It is very true, that this volume may not be in all respects as *entertaining* as the large work of Mr. Howe; neither can it compare in this respect with the Arabian Night's Entertainments, or the veritable history of Jack the Giant Killer, but then it should be recollected that it is a chronicle of facts, and that the historian does not feel at liberty to give his responsible endorsement to unsustained tradition, however much it might contribute to the sale of his work.

We do not agree with all the views expressed by Mr. Howison in the volume which is before us, but nevertheless, are free to say, that the history, as far as it has been prosecuted, surpasses the high expectations which we had indulged from our previous knowledge of the talents and character of the author. We recommend the work most heartily to our readers.

[From the Fredericksburg Recorder.]

HOWISON'S HISTORY OF VIRGINIA.—We commend to the attention of our readers the second volume of this history, which has at length been issued from the press, and with a copy of which we have been favored by the publishers. It brings down the history of our state from the commencement of the stirring scenes of the Revolution to the present time. The writer has thus accomplished a task of extreme difficulty. He has had to discuss, of necessity, many difficult subjects which greatly divided the public mind at the time they were agitated, and upon which great differences of opinion still prevail. Entire unanimity with the sentiments of the author is not, therefore, to be expected. Upon one topic only, however, could we wish he had maintained more reserve as regards his personal preferences. By withholding any decision on the vexed question of ecclesiastical polity, the book, we think, might have been rendered universally acceptable without detracting from its merit as a history. With this exception we may safely claim for this volume the high encomiums which were passed on its predecessor. It is written in the same lively and attractive style, and is gotten up by the publishers in the same beautiful manner. The work, thus completed, supplies a desideratum which has long been felt. If not absolutely perfect, the author can claim at least the merit of a successful pioneer, who has struck out a path where none existed before, and ably prepared the way for future historians.

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BEG LEAVE TO INVITE ATTENTION TO THE FOLLOWING

NOTICES OF THE PRESS:

[From the New York Christian Enquirer.]

We gladly take the opportunity of the present great concourse of strangers in our city, to speak of the Piano Fortes of Mr. Worcester. Having occasion to purchase an instrument, we consulted a distinguished Professor of the Piano Forte, and, by his recommendation, applied to Mr. W., and, we are happy to say, with entire satisfaction as to quality and price. There are always a certain fashion, even about MUSICAL INSTRUMENTS; but, fortunately, the tone and finish of a good Piano Forte can stand upon their own intrinsic merit, which is obvious to the general judgment; and we venture to assure those who are about purchasing, that they will not be disappointed if they try Mr. Worcester's Pianos. The one which yielded $1250, at Stewart's, for the Irish, was of his manufacture.

[From the New York Mirror.]

The reputation of Mr. Worcester's Pianos is such, that it is almost unnecessary to offer any commendatory remarks as to their quality of tone, elegance of workmanship, or general excellence. It is sufficient for the purpose to state, that they are not to be excelled in any respect. They are in mahogany and rosewood cases, from six to seven octaves. Those in want of really good Instruments, which they may purchase with perfect confidence, should by all means examine those of his manufacture.

[From the Home Journal, N. Y.]

Those manufactured by Worcester are admirable in every particular. His ample warerooms on the Third Avenue, are among the novelties and attractions of the metropolis. All in want of good and elegant instruments, unsurpassed in touch and tone, for family use and ornament, should pay Worcester a visit before they purchase elsewhere.

[From the New York Journal of Commerce.]

Among the manufactures carried on extensively among us, no one branch perhaps employs more men and capital than the manufacture of Pianos; and of the numerous establishments in our city devoted to this purpose, there is hardly one known to us more worthy a visit than the very extensive manufacture of Mr. Worcester. We visited this establishment yesterday, and have never been more gratified in any visit of the kind. *Rosewood* is now the fashionable material for the exterior of Pianos; and when we inform the reader that we saw in Mr. W.'s establishment a single log of wood for which $400 had been paid, he will appreciate the elegance of the general character of his workmanship. Of the tone of Mr. Worcester's Pianos it is unnecessary to speak; the fact that the Piano he presented to the Irish Relief Committee, sold for some fourteen hundred dollars, is conclusive on this point.

[From the New York Evening Mirror.]

We have frequently taken occasion to commend Worcester's Piano Fortes to the public, because, in doing so, we felt confident that we were recommending a very superior article, and, in directing notice to them, we were performing an act of justice. We do not hesitate to say, that, as respects tone and tune, they are not excelled by those of any manufacturer either in America or Europe. We have seen and listened to the tone of those manufactured by the most celebrated makers in other countries, but in our judgment they were not a whit superior in any respect to those of Mr. Worcester, who for many years has devoted himself to the business, and been constantly making such improvements as his experience suggested, until the instruments have been established in every part of the country. He has at present, at his manufactory, 137 Third Avenue, a large collection of six and seven octave Piano Fortes, in splendid cases, made under his own supervision, and warranted.

[From the N. Y. Evening Post.]

In no article of home industry have greater improvements been made within a few years than in Piano Fortes. No man now thinks of sending abroad for an instrument which can be produced in every respect as perfect at home. No manufacturer of Pianos, whether foreign or native, has acquired a more enviable or extended reputation than Mr. Worcester. Indeed, he seems to have reached

well nigh the acme of perfection. A brief glance at his extensive manufactory on the Third Avenue will afford some idea of the extent of his business, and the manner in which it is conducted. The building occupied is of three stories, with basement, being Nos. 137 to 143, inclusive. Nearly forty hands are constantly at work, who take the materials in their rough state and perform the entire work of each instrument at this establishment, under the immediate supervision of Mr. W. himself. Hence, the materials used are all of the very best kind, and no inferior instrument is ever allowed to leave the establishment. The laying in of a large stock when favorable opportunities offer, and other superior facilities for doing business, enable Mr. Worcester to furnish his superb Pianos at a low price. His extensive lumber-yard, stocked with a choice variety of timber, convenient drying rooms, and excellent machinery, give him every desirable advantage.

One great advantage in this, as in many other kinds of manufacture, is the division of labor. Each has his specific business, to which he exclusively devotes himself, and thus becomes perfect in his department. One prepares the pedal extremities, another the sounding board, another the keys from the large ivory tusks, while one is constantly varnishing, another tuning, &c., &c., &c. In fact, the division of labor is carried as far almost as in pin-making, when it took 25 persons to make and prepare for market this simplest of all instruments.

Two points Mr. Worcester has constantly kept in view in the manufacture of his instruments—to captivate the ear by their rich, brilliant tone, and please the eye by their exquisite finish. In both he has entirely succeeded, and is reaping the golden harvest he so richly merits. To obtain the proper tone is the highest triumph of art, and is only gained by the nicest combination of the best materials, requiring the highest skill, united with long experience. Eminent musicians, who have used Mr. Worcester's instruments, give them the preference to the best imported. The elegant finish which characterises them, strikes the attention, displaying at once the correct taste of the artist, and making them an ornament quite in keeping with the most richly furnished drawing-rooms. With such arrangements it is not strange that Mr. Worcester's business increases so rapidly, and that every Piano Forte that goes out is the means of bringing in several new customers. They are their own best recommendation. Enterprise and merit seldom fail to meet their just reward.

[Communicated for the N. Y. Com. Advertiser.]

I have several times called attention to the Piano Forte Factory, No. 139, Third Avenue. Without meaning to write a puff, I again remark upon one of the good qualities of Mr. Worcester's Pianos—the ease with which the player can bring out their fine tone. There is something very pleasant in the sound of a Piano under a lady's touch. It should throw a male amateur into despair when he con-

trasts his own touch with hers, and finds himself fated, as it were, to bring out every harsh and brazen sound in the strings. The differenee may be owing to that womanly tact which avoids every thing jarring, or smooths it over. Certainly too many players do hammer out a melody on the piano with all the muscular exertion, if not quite the musical effect, of a "harmonious blacksmith." Now, it is hard to abuse Mr. Worcester's pianos so as to make them jangle, and they yield a fine tone so readily as to persuade one to deal gently by them. I recommend them to society for its own sake.

[From the New York Commercial Advertiser.]

We are told that the builder of the house, Cortland Palmer, Esq., has aimed to have the best furnished hotel in New York. That would demand great skill and taste, as others have conceived, and, so far as possible, carried out the same purpose. But we may safely say that the Union Place Hotel has one of the most elegant and best toned Pianos we have yet seen or heard. It is one of Worcester's. Technically, it is "finished throughout"—that is, the back as well as the front and ends are finished, and with equal elegance and care. The tone is perfectly pure, deep, and soft as the tone can be. Compass and sweetness are most happily combined; and it justly excites the admiration alike of amateurs and professed artists. In its construction, Mr. Worcester has evidently sought to excel even himself, and has designed that this Piano should *speak* of his great skill to all visiters at the hotel.

[From the New York Evening Mirror.]

We were admiring, a few days since, a very magnificent looking Piano Forte in the elegant drawing-room of the Union Place Hotel, when, upon an examination of its interior, we were pleased to find that it came from the manufactory of our friend Worcester, of 137 Third Avenue. Mr. Wheeler, the proprietor of the hotel, informed us that, in the last ten years, he had bought as many as a dozen Piano Fortes of Mr. Worcester, for himself and friends, and that all had given the most perfect satisfaction. We have often said, and we take pleasure in repeating the truth, that Mr. Worcester's instruments are made upon honor, and are equal to any in the world.

[From the New York Sunday Courier, May 27, 1849.]

We visited the neat and well-regulated establishment of Mr. Worcester, 137 Third Avenue, and tried several of his fine instruments, of which he has a large and well-assorted stock. Mr. Worcester has been long and favorably known to the public, and every instrument he makes can be relied upon; for, being indefatigable in his business, he personally supervises and finishes every one of them. This care fully accounts for the admirable equality to be found through the whole range of his scale, an equality which displays itself in the perfect gradation of power from the lowest note

to the highest. The quality of tone which he produces is deliciously round and pure. We can cordially recommend Mr. Worcester's instruments, for we have known and approved the make for many years.

[From the New York Evening Post, May 5th, 1849.]

WORCESTER'S PIANO FORTE MANUFACTORY.—We take pleasure in calling the attention of our readers to Mr. Worcester's Pianos. He has been long known to the musical public as a successful manufacturer of these instruments, and celebrated performers have spoken of them in terms of strong commendation. The instruments are made under his own superintendence and care, and he gives his personal attention to the regulation of the touch and tone, which are the points that deserve most notice, and that render them such fine instruments.

[From the Com. Adv., Dec. 27.]

Our friend, Mr. H. Worcester, is rapidiy increasing his stock of Pianos. His large manufactory gives him increased facilities for supplying those in need of a superior article. We speak advisedly when we recommend his Pianos, for we prefer them to any others for their full rich tone and excellent workmanship.

The following editorial notice is copied from "Saroni's Musical Times," New York, March 8th, 1851:

Splendid Piano Forte.—We have seen, at the factory of H. Worcester, Third avenue, a square Piano Forte, (price $1,000,) which, in point of excellence of tone and ornament of the case, surpasses anything we have ever seen. We would gladly give a description of it, but knowing that a single glance at the instrument will convey a better idea of it than one half of Webster's Dictionary, we invite our friends to go to the factory, where Mr. Worcester, the gentlemanly proprietor, will no doubt be glad to exhibit the instrument.

The "New York Commercial Advertiser" of the 21st March thus speaks editorially of the same Piano:

An elegant Ornament for a Parlor.—The most beautiful piece of furniture we have seen for a long time, is a Piano Forte in the wareroom of our old friend, Mr. H. Worcester. His instruments are noted for the peculiar richness of their tones. The lower bass notes are almost as sonorous as those of an organ, while the extreme upper notes give forth sounds as sweet and perfect as silver bells. The action, itself, is so easy that the fingers of the player glide over the keys with a facility that might almost satisfy an indifferent performer. The case is of rosewood, with rounded corners, ornamented on the edge with a strip of carving. On the ends, sides and board above the keys, are various designs, inlaid with

colored woods, representing flowers, landscapes, birds, &c., of such neat workmanship, that at the first glance they are easily mistaken for paintings. The legs are richly carved from a solid block of rosewood. The price of the piano is $1,000.

The plainer and less costly descriptions of Pianos manufactured by Worcester, are warranted to be equal in tone, touch and durability, to the more elaborately carved and elegantly finished instruments, described in the above notice.

Magnificently wrought instruments, beautifully inlaid, ranging in price from $600 to $1,000, will be ordered for any customer, and warranted to give satisfaction.

[From the N. Y. Mirror, June 29, 1850.]

PIANO FORTES.—We take pleasure in directing the attention of our readers to the advertisement of Mr. H. Worcester, the celebrated Piano Forte manufacturer, and assure them, that should they contemplate purchasing such an instrument, they will find the stock at his establishment, 137 Third Avenue, to be altogether unsurpassed, and we might add with truth, unsurpassable. They are not made to please the eye alone, and yet, as a piece of furniture, we can scarcely imagine a more elegant and tasteful addition to a drawing-room; but the touch and tone of the instruments are of such a quality as to commend them to particular attention, and have won for Worcester's Pianos universal and well-deserved celebrity.

They are made under his immediate supervision, and his long connection with the business and perfect acquaintance with all its branches, have enabled him *continually* to add improvements, until Worcester's Piano Fortes have attained a degree of excellence it would seem almost impossible to exceed. The assortment of six to seven octave instruments now at his establishment, is unusually large, and the place is worthy a visit if only from curiosity.

[From the N. Y. Evening Post, June 29, 1850.]

PIANOS.—We would direct the attention of those among our musical friends, who may desire to purchase a Piano, to those manufactured by Mr. Worcester. The tone and touch of these instruments would satisfy even the most fastidious musical critic, and the manner in which they are finished reflects the highest credit on the workmanship.

[From the N. Y. Sun.]

PIANOS.—Mr. Worcester has a large assortment of Pianos for sale at his warerooms, on the corner of Fourteenth Street and Third Avenue, which we would recommend to the inspection of those purchasing such instruments. For elaborate workmanship and tone, these pianos are not excelled by any others in the city. He is an old established manufacturer, whose reputation is a guaranty of his skill and excellence in his art.

[From the Home Journal 25th November.]

WORCESTER'S PIANOS.—We were invited a few days ago to examine the Piano Forte Warerooms of Mr. H. Worcester, in the Third Avenue, where we saw the material of the instruments in every stage of progression, from the rough boards to the highly finished and exquisitely toned ornament of the parlor. As a workman, Mr. Worcester has had great experience, and his instruments are known and appreciated in every part of the land. We advise our readers, if time and opportunity should offer, to take a view of the internal arrangement of Mr. Worcester's extensive and admirable manufactory.

The N. Y. Commercial Advertiser, of the 27th November, copies the above and says:

"We agree with the above from Morris & Willis's Home Journal, most decidedly, and we claim to know something about the matter. Mr. Worcester's Pianos are unsurpassed in purity and volume of tone, and finish of mechanical execution."

[From the N. Y. Evening Mirror, 12th Oct. 1850.]

WORCESTER'S PIANO FORTES.—It always affords us peculiar pleasure to recommend the "good things" of a modest man like Mr. Worcester, whose Piano Fortes are not surpassed by any instruments manufactured in this country. Mr. Worcester, has gone on quietly, until he may claim rank with the first Piano Forte makers—his instruments go off from his warerooms as fast as he can turn them out. Mr. W.'s prices are something below the Broadway standard. We can confidently assure our friends, who wish to purchase a first rate instrument, on the most reasonable terms, that they cannot do better than to call on Worcester. We have sent Mr. W. many a customer during the past five years, and we have not heard the first word of dissatisfaction expressed against his instruments or his prices.

[From the N. Y. Commercial Advertiser.]

"*Those dulcet strains*," of which "very truly yours" speak, came not from a human throat, but from one of those wonderful pieces of mechanism known as "*Wórcester's Pianos*." As we have more than once said, they give forth, next to the melody of the voice in love's whisperings, the sweetest and most perfectly harmonious and melodious tones that we are accustomed to listen to.

[From the N. Y. Mirror, 25th June, 1850.]

WORCESTER'S PIANOS.—We take great pleasure in directing public attention to the Piano Fortes manufactured by Mr. H. Worcester, because we can do so conscientiously, knowing they will justify all that we can say in their favor. They are finished from six to seven octaves, in cases of rosewood and mahogany, of great beauty and exquisite finish.

The N. Y, Commercial Advertiser of the 26th June copies the above, and says:

"Also 'WE take great pleasure' in endorsing this testimony to the exquisite beauty and finish of Mr. Worcester's Pianos. We were pleased to see the other day, the evidences of agreement between the public opinion and our own, the demand for Pianos of Mr. Worcester's manufacture having compelled him greatly to enlarge his manufactory, which is now one of the largest and most complete establishments of the kind in America."

In addition to the preceding "notices of the press," we have in our possession numerous letters from purchasers, who, upon *personal satisfaction and experience*, fully corroborate the eulogiums of the press.

We are authorized by *Mr. Worcester* to accompany each instrument sold with a written guaranty, and should they not prove to be, after the most rigid examination, of acknowledged superiority, we will refund the purchase money.

They are made with *special regard to our climate*, and in consequence, will be found, in *durability, sweetness of tone* and *delicacy of touch*, unrivalled.

In prices, we have no hesitation in saying, that we offer inducements never before offered in Virginia; indeed our prices will be found even lower than instruments can be purchased in any of the Northern cities; and our assortment will always be found equal to any one establishment *North* or *South*.

We pledge ourselves to fill all orders to the entire satisfaction of purchasers.

MORRIS & BROTHER,
Worcester's Agents for Virginia.

Directions for Unpacking.—You will find two screws at each side of the box near the bottom, which hold the Piano fast in its place; draw these out, then take off the lid of the box and remove the legs and lyre: take out the end-board which separates the Piano from the legs; also a strip which is nailed to the bottom of the box.—Draw the Piano about eight inches towards the vacant end of the box, lift it out carefully, and turn it up, with its back resting on a stool or chair at each end: Remove the strips from across the

bottom; screw the legs into their respective places, which are numbered: screw the brace to the back of the lyre, and fasten the lyre into the block on the bottom of the Piano, by the pins which you will find there. Then turn down and unlock, when it will be ready for use.

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